**CHAPTER I**

**INTRODUCTION**

There are many pet animals throughout the world, especially dogs and cats play an important role in the societies of Bangladesh and India. They are important companions in many households, contributing to the physical, social and mental development of children and the well-being of their owners (Robertson *et al*., 2000). Pet owners are reported to less visit doctor, use fewer medicines and maintain normal blood pressure and cholesterol levels than non-pet owners (Headey and Krause, 1999). Dogs and cats offer significant benefits to our society like companionship, play with children, guard the house and alert the owner from any adverse condition, used as gift to special one and economic purpose. However, in spite of the beneficial effects, some health hazards associated with owning a pet. Dogs and cats reared in the same environmental condition so there is a possibility to transmit various zoonotic diseases. Animal bites and allergy to pets are the commonest health hazards, however a diverse range of infections, including parasitic, bacterial, fungal and viral diseases are transmitted to humans from domestic pets (Plant *et al*., 1996; Geffray, 1999). These data are helpful for the veterinary industry and the pet owners to take the necessary preventive measure to control these diseases among dogs, cats and these data also useful for control of different types of zoonotic diseases like rabies control program. The pet food, pharmaceutical and pet accessories industries are also interested in knowing where to focus their marketing strategies, and this demographic information are very much important for this marketing policy. India has one of the world’s fastest-growing pet markets, as ownership increases with the growth of the middle classes. Dogs are the most common pets, followed by cats. Madras veterinary college is an established well known college in the world. Most of the patients of MVC are pets. In Bangladesh, S.A. Quaderi Teaching Veterinary Hospital (SAQTVH) is a largest and well known veterinary hospital. They provide treatment to the many pet animals daily.

Therefore, the objective of this study -

1. To determine the prevalence of clinical conditions in dogs and cats presented at S.A. Quaderi Teaching Veterinary Hospital (SAQTVH) in Chittagong district of Bangladesh.
2. To determine the prevalence of clinical conditions in dogs and cats presented at Madras Veterinary Collage (MVC) in Tamil Nadu states of India.
3. Differential study of diseases prevalence of pet animals found in SAQTVH and MVC.

**CHAPTER II**

**REVIEW OF LITERATURE**

**Common Diseases of Pets:**

The common pet animals found in Bangladesh and India are dog and cat. Common diseases of dog and cat are discussed below:

**2.1 Common Diseases of Cat:**

There are many diseases, which are common to cats. If ignored some of those diseases may turn out to be fatal. But most of the diseases can be prevented by taking care of simple things. Firstly, keep your cat indoors. Secondly, get your cat vaccinated against some common cat diseases. (Trepanier, 2009)

**Some of the common cat diseases are:**

**2.1.1 Upper respiratory infections (URIs)**

URIs is similar to the common cold in humans. Symptoms include sneezing, running nose and eyes, reddened eyes, fever and decreased appetite. If left untreated URIs can be fatal .these airborne virus is very fatal. They can be transmitted to cat through handling of man and though contact with other cat and with inanimate objects such as litter boxes, food bowels. (Sherding, 1994)

Prevention is best approach in URIs. Separate any new cat from your other cats for at least three weeks until you are sure that the newcomer doesn’t have any symptoms of a URIs. (Grice *et al*)

**2.1.2 Rabies:**

Rabies is a fatal and one of the more common cat diseases. It is viral illness that is transmitted through bite wounds from infected animal and attacks the nervous system. Prevent rabies through vaccination and by keeping your cat indoors. (*Zoran*, 2010)

**2.1.3 Feline Panleukopenia :**

Also known as feline distemper, this is a highly contagious viral diseases that can be transmitted through contact with humans ,infected cats ,clothing, hair paws, food bowls and even cat carries. The diseases come suddenly with vomiting, loss of appetite and diarrhea. Prevent this diseases b getting your cat vaccinated against this virus. (*Zoran*, 1999)

**2.1.4 Feline Leukemia :**

FeLv is a fatal infectious virus that affects the immune system and can cause several forms of cancer and other associated diseases. (*Grice and Barchia*, 1992) It is transmitted through the saliva, urine and faces of infected cats. Blood tests can diagnose this disease. The cat should be tested before being vaccinated. Prevention is the only cure. Get your cat vaccinated. (Trepanier, 2009)

**2.1.5 Feline Immune Deficiency Syndrome (Flv)**

Flv is similar to human acquired immune deficiency syndrome (AIDS) but the diseases causing virus is different. This fatal virus attacks the immune system causing, causing a variety of symptoms (Grice and Barchia, 1992). General symptoms include chronic non responding infections, respiratory problems, appetite loss, persistent diarrhea and severe oral infections. Flv is passed from cat to cat primarily through bites. There is currently no vaccination or cure for Flv. Just keep your cat inside to prevent it from contacting Fly (*Leib and Matz,* 1995).

**2.1.6 Feline Infectious Peritonitis (FIP)**

FIP is deadly virus that is fatal to cats. This virus can take out two forms, commonly referred to as wet (which involve fluid in the abdomen) and dry (which does not). Both forms of FIP may cause fever, lethargy, vomiting, diarrhea and loss of appetite (Trepanier, 2009*).*

There is no effective treatment for FIP. The best way to prevent this disease is to

Keep your cat indoors, away from strange animals and remain up- to-date vaccines. (Trepanier, 2009).

**2.1.7 Diarrhea in Cats**

The passage of frequent squirts of watery stool is known as Diarrhea and it is a very common in feline. It can’t be termed as a disease on its own (Henzell, 1991)

Actually, it is a symptomatic disorder of various underlying problems in the body.

Dimski (1995) reported, sometimes diarrhea may be acute, lasting for a period of 2-3 weeks. Sometimes, the situation gets chronic when it persists for more than 3 weeks. Blood may or may not be present in the stool, and often the stool is yellowish and frothy. Various factors contribute towards such unhealthy bowel movement in cats. Let us understand the various symptoms, causes, preventive measures and useful home remedies for treating the problem of diarrhea in cats (Auld, 1990).

**2.1.8 Ringworm in cat**

Ringworm in cats is a fungal infection that feeds on keratin. Keratin is mainly found in hair, skin and nails. Medically known as Dermatophytosis or Dermatomycosis, the ringworm infection affects the superficial dead layers of the skin and hair. The fungus thrives on the dead tissues in the skin and multiplies with time. The fungus attacks and damages the hair shafts, leading to round patches of hair loss. The ringworm infection usually affects cats of less than 12 months of age, malnourished cats, cats with a weakened immune system and those suffering from diseases. The infection is highly contagious and can easily spread to other animals and humans through direct contact. It can also be transmitted indirectly through bedding, brushes and grooming equipment used on an infected animal. (Marks, 1998)

**2.1.9 Eye Diseases in Cat:**

**2.1.9.1 Glaucoma**

Glaucoma is characterized by an increase in the pressure within the eye, which results in the improper functioning of the eye lens. The intraocular pressure can however be reduced by specific medications during the early stages. In severe cases, surgery is the only available treatment. (Johnson *et al*).

**2.1.9.2 Melanoma**

A common feline eye problem, melanoma develops due to the thickening of the iris. A veterinarian can easily notice the same. The color of the infected iris also visibly changes. The disease is generally prevalent among older cats. Normally, the contaminated eye is removed with the help of surgery. (Leib *et al*)

**2.1.9.3 Cataracts**

Leib *et al* reported, in this disease, the eye lens become opaque and leads to optical disorders. If left untreated, cataracts may also lead to glaucoma. The disease is more common in dogs, rather than cats. So, it becomes important to detect and treat the primary causes of cataracts. Surgeries can be performed for lens transplants.

**2.1.9.4 Herpes**

This eye disease in cats is attributable to presence of the Herpes virus in the body. The virus is found in the optic nerve, trigeminal ganglia, and tonsils and even in the nasal terminates of cats. One of the easiest ways of preventing the disease is providing your cat with a Herpes vaccination. (Johnson *et al*)

**2.1.9.5 Progressive Retinal Atrophy (PRA)**

This is an inherited eye disorder in cats and is incurable. A cat with PRA suffers from a slow decrease in eyesight and eventually becomes blind. Due to the gradual and painless nature of the disease, an infected cat in such cases easily adapts to his reduced vision and blindness. (J. Forsyth *et al*)

**2.1.9.6 Conjunctivitis**

Conjunctivitis occurs when the eye membrane gets inflamed and reddened, often due to the presence of Herpes Virus. Treatments in such cases are very complicated and there might be recurrent surfacing of the disease. Various free-living organisms may also carry the disease. (Johnson *et al*)

**2.1.9.7 Sudden Blindness**

Forsyth *et al* reported stress and hypertension also give rise to sudden blindness in cats. Various hormonal disorders, kidney problems and diseases like Diabetes are off-shoots of hypertension in the animal, and leads to this condition. Bloody eye chambers and dilated pupils are its major symptoms. Some of these cases blindness will be unavoidable (Zoran, 2010).

**2.2 Common Diseases of Dog:**

There are many diseases, which are common to dogs. If ignored some of those diseases may turn out to be fatal. But most of the diseases can be prevented by taking care of simple things. Firstly, keep your dog indoors. Secondly, get your dog vaccinated against some common dog diseases. (Trepanier, 2009)

**Some of the common dog diseases are:**

**2.2.1 Canine Distemper**

Also known as Hard Pad Disease, this is a highly contagious, systemic, viral disease of dogs and is the leading cause of infectious disease deaths in dogs worldwide. It is most common in unvaccinated puppies prior to 3-8 months of age, because these puppies have lost the protection of Maternal antibodies. Canine Distemper is caused by Paramyxovirus, closely related to Measles virus.It has a special affinity for attacking epithelial cells. It begins with fever, loss of appetite, listlessness and a watery discharge from eyes along with diarrhoea. Dog continues to run a fever, gets better for a day or two and then seems to get worse.

**2.2.2 Canine Hepatitis**

This is caused by Canine Adenovirus Type I and is a highly contagious viral disease transmitted only to dogs. Ingestion of saliva, urine or feaces of infected dogs is the main route by which the infection is spread. Recovered dogs shed the virus in their urine for over 6 months. Clinical Symptomsvary from slight fever to death. The first sign is fever (biphasic) followed by anorexia, thirst, conjunctivitis and serous discharge from the eyes and nose.

**2.2.3 Parvo Viral Infection**

This is one of the most dreaded diseases in dogs, as the onset is rapid, and the morbidity and mortality are very high. It is an enteric (intestinal) disease, caused by the Canine Parvovirus, which mostly affects puppies because it has a special affinity for rapidly dividing cells. But dogs of all ages can be affected, but puppies less than five months are most prone. Severe depression, loss of appetite, vomiting, tucked up appearance, high fever followed by profuse diarrhoea which is usually bloody are the clinical sign.

**2.2.4 Corona Virus Enteritis**

This is a highly contagious disease worldwide. It is very similar to Parvo, but less severe. It spreads rapidly and the severity depends on the condition of the dog. The mode of infection is through the infected faeces.

Symptoms include vomiting, diarrhoea with soft faeces that maybe yellow or mixed with blood. The disease is more severe in puppies though it may affect dogs of any age.  
Some veterinarians feel that Canine Corona Viral enteritis is under diagnosed because the symptoms in the dog closely resembles that of parvo and also there may be an actual concurrent infection by parvo virus. It should be suspected whenever there is rapid spread of gastro intestinal disease among dogs.

**2.2.5 Leptospirosis**

This is caused by L. Coanicola and L. Icteohaemorrahgiae, it spreads by the urine of infected animals. The dogs get infected either by a break in the skin or when it drinks water or food that is contaminated by infected urine. Most cases are mild. Though it affects many organs the kidneys are most affected.

A hunched gait because of pain in the kidneys, formation of ulcers in the mouth and tongue, bleeding from the mouth, passage of bloody stools and severe thirst with increased urination are the main symptoms. Sometime the liver is involved causing jaundice. This disease is realtively rare these days

**2.2.6 Parainfluenza**

Parainfluenza and Canine Adenovirus-2 are highly infectious diseases of the respiratory tract. They are transmitted by air, and readily caused localized infections. The disease itself is mild, but secondary bacterial infections cause a more severe manifestation. Coughing of various intensity and frequency, along with fever is the common symptom.

**2.2.7 Rabies**

One of the most feared diseases, rabies is an acute viral encephalomyelitis (affecting the brain), that particularly affects carnivores and insectivore bats although it can affect any mammal. Once the clinical signs appear, the disease is almost invariably fatal.  
Many countries have managed to become free of rabies through successful eradication programmes. Transmission is by the introduction of the virus laden saliva into the tissues. The incubation period may be prolonged and variable. After entering the muscle cells, the virus replicates itself, and travels via the peripheral nerves to the spinal cord, and ascends to the brain. From here it once again travels through the peripheral nerves to the salivary glands.

**2.2.8** [**Coccidioidomycosis**](http://en.wikipedia.org/wiki/Coccidioidomycosis)

Coccidioidomycosis is a fungal disease caused by [*Coccidioides immitis*](http://en.wikipedia.org/wiki/Coccidioides_immitis) or [*Coccidioides posadasii*](http://en.wikipedia.org/wiki/Coccidioides_posadasii) that affects a variety of species, including dogs. In dogs signs of primary pulmonary disease include a cough, fever, weight loss, anorexia, and lethargy. Disseminated disease occurs when the fungus has spread outside of the lungs and may include clinical signs such as lameness, pain, seizures, anterior uveitis, and localized swelling. Diagnosis of Valley Fever may include multiple tests, including serology and radiology. According to a study performed in the Tucson and Phoenix area, 28% of dogs will test positive for exposure to the fungus by two years of age, but only 6% of the dogs will be ill with clinical disease There is an increased risk of infection associated with amount of time spent outdoors, a larger roaming space accessed by the dog, and increasing age.

**2.2.9 Eye Diseases in Dog:**

**2.2.9.1 Glaucoma**

Glaucoma is characterized by an increase in the pressure within the eye, which results in the improper functioning of the eye lens. The intraocular pressure can however be reduced by specific medications during the early stages. In severe cases, surgery is the only available treatment. (Johnson *et al*).

**2.2.9.2 Melanoma**

A common canine eye problem, melanoma develops due to the thickening of the iris. A veterinarian can easily notice the same. The color of the infected iris also visibly changes. The disease is generally prevalent among older dogs. Normally, the contaminated eye is removed with the help of surgery. (Leib *et al*)

**2.2.9.3 Cataracts**

Leib et al reported, in this disease, the eye lens become opaque and leads to optical disorders. If left untreated, cataracts may also lead to glaucoma. The disease is more common in dogs, rather than cats. So, it becomes important to detect and treat the primary causes of cataracts. Surgeries can be performed for lens transplants.

**2.2.9.4 Herpes**

This eye disease in cats is attributable to presence of the Herpes virus in the body. The virus is found in the optic nerve, trigeminal ganglia, and tonsils and even in the nasal terminates of dogs. It is a common cause of death in puppies less than three weeks old. One of the easiest ways of preventing the disease is providing your cat with a Herpes vaccination. (Johnson *et al*)

**2.2.9.5 Progressive Retinal Atrophy (PRA)**

This is an inherited eye disorder in dogs and is incurable. A dog with PRA suffers from a slow decrease in eyesight and eventually becomes blind. Due to the gradual and painless nature of the disease, an infected dog in such cases easily adapts to his reduced vision and blindness. (J. Parkes *et al*) [Progressive retinal atrophy](http://en.wikipedia.org/wiki/Progressive_retinal_atrophy) (PRA) is a genetic disease of the retina that occurs bilaterally and is seen in certain breeds of dogs. It causes progressive vision loss culminating in blindness.

**2.2.9.6 Conjunctivitis**

Conjunctivitis occurs when the eye membrane gets inflamed and reddened, often due to the presence of Herpes Virus. Treatments in such cases are very complicated and there might be recurrent surfacing of the disease. Various free-living organisms may also carry the disease. (Johnson *et al*)

**2.2.9.7 Sudden Blindness**

J Parkes *et al* reported stress and hypertension also give rise to sudden blindness in dogs. Various hormonal disorders, kidney problems and diseases like Diabetes are off-shoots of hypertension in the animal, and leads to this condition. Bloody eye chambers and dilated pupils are its major symptoms. Some of these cases blindness will be unavoidable (Zoran, 2010).

**2.2.9.8 Retinal dysplasia**

[Retinal dysplasia](http://en.wikipedia.org/wiki/Retinal_dysplasia) is an eye disease affecting the retina of dogs. It is usually a nonprogressive disease and can be caused by viral infections, drugs, vitamin A deficiency, or genetics. Retinal dysplasia is characterized by folds or rosettes (round clumps) of the retinal tissue.

**2.2.10** [**Diabetes mellitus**](http://en.wikipedia.org/wiki/Diabetes_in_dogs)

[Diabetes mellitus](http://en.wikipedia.org/wiki/Diabetes_in_dogs) in dogs is [type 1](http://en.wikipedia.org/wiki/Diabetes_mellitus_type_1), or insulin dependent diabetes: a lack of [insulin](http://en.wikipedia.org/wiki/Insulin) production due to destruction of pancreatic [beta cells](http://en.wikipedia.org/wiki/Beta_cell). Current research indicates no evidence of [type 2](http://en.wikipedia.org/wiki/Diabetes_mellitus_type_2) diabetes in dogs. Among the causes of diabetes mellitus in dogs is [autoimmune disease](http://en.wikipedia.org/wiki/Autoimmune_disease) or severe [pancreatitis](http://en.wikipedia.org/wiki/Canine_pancreatitis). Forms of diabetes which may not be permanent, depending on the amount of damage to the beta cells of the [endocrine pancreas](http://en.wikipedia.org/wiki/Endocrine_pancreas), are transient and secondary diabetes. Some causes of transient or secondary diabetes are [Cushing's syndrome](http://en.wikipedia.org/wiki/Cushing%27s_syndrome), [glucocorticoid](http://en.wikipedia.org/wiki/Glucocorticoid), [progestin](http://en.wikipedia.org/wiki/Progestin) or other steroid use, and the hormones of pregnancy or heat. In these cases, correcting the primary medical issue may mean a return to non-diabetic status. Common signs include weight loss, increased [drinking](http://en.wikipedia.org/wiki/Polydipsia) and [urination](http://en.wikipedia.org/wiki/Polyuria), and [cataracts](http://en.wikipedia.org/wiki/Cataract). Treatment involves twice daily insulin doses (replacement therapy) and use of a diet high in fiber and [complex carbohydrates](http://en.wikipedia.org/wiki/Carbohydrate#Nutrition). Oral diabetes medications are not able to be used for dogs because none are capable of repairing or surmounting the permanent damage to the beta cells of the pancreas.

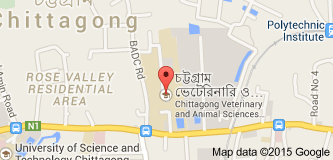
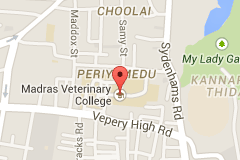
**CHAPTER III**

**METHODOLOGY**

**3.1 Study area**

Study areas were S.A. Quaderi Teaching Veterinary Hospital (SAQTVH) and Madras Veterinary College(MVC). First one SAQTVH is at Chittagong Veterinary and Animal Sciences University in Bangladesh. There are 2 units in SAQTVH. Everyday small amount of pet animals were taken to this hospital for treatment and checkup.

The other study area was Madras Veterinary College at Chennai in India. There were 15 units for small animal. Everyday large amounts of small animals were taken in the hospital for treatment and general checkup.

****

**3.2 Study period**

The study was carried out at SAQTH during the February 2014 to October 2014, Madras Veterinary College, Chennai during internship placement period that was 15 days from 02.6.2014 to 17.6.2014.

**3.3 Data collection**

The necessary information for the diagnosis of diseases was collected directly from the owner of the animal through questionnaire. The questionnaire includes following information such as:-age, sex, body weight, breed, color, species, patient data (duration of illness, history of previous treatment, body condition) farmers complain and management system (feeding, housing, hygiene measure etc.) the skin disease was diagnosed by physical examination, laboratory and clinical findings for the disease condition.

**3.4** **Diagnosis**

**3.4.1 Physical examination:**

The animals were examined individually by taking history, close inspection, taking temperature, palpation parting of hair coat and itch reflex. The signs, number location and physical characteristics of characteristic lesion size shape texture color location were recorded.

**3.4.2** **Laboratory examination**

For hematological test 2-3 ml blood collected from cephalic vein and placed half of the blood in a vial with anticoagulant and other part in vial without anticoagulant for serum test. Vials are labeled with the no. of the patient and send to the centralized clinical laboratory.

For diagnosis of the skin disease, skin scraping taken from the affected part and send to the Dermatological unit. Diagnosis of the skin disease was made on the basis of interpretation of epidemiological feature, history, findings of clinical examination of the animal and laboratory examination of the specimen like recovery of mite from skin scrapings digested with 10% KOH solution and examined under microscope.

**Procedure**:

At first skin scraping was taken from the suspected case

Then placed on a microscope slide

1 drop of 10% KOH was added

Specimen was allowed to stain for few minutes with gentle warming

Microscopic examination was revealed hyphae and spores (*Trichophyton spp*) the infected materials

**CHAPTER-IV**

**RESULT AND DISCUSSION**

The study was conducted in two placement, SAQTVH (Bangladesh) and MVC(India). A total of 330 cases of different clinical conditions were counted in SAQTVH during the study period. Among of them dogs and cats were 76.97% and 23.03%. Medicinal cases comprise highest percentage (dogs 47.24% and cats 48.7%) in compare to surgical cases (dogs 21.25% and cats 28.95%) and vaccination and health check up (dogs 31.50% and cats 22.37%). Among of the medicinal cases highest prevalence was found in parasitic diseases 20% in dogs. After that diseases prevalence of digestive system (dogs 15.7% and cats 18.4%).Disease prevalence of special sense organ (dogs 5% and cats 6.5%).respiratory system infection (dogs 6.25% and cat 9.2%), (Table-1). A total of 443 cases of different clinical conditions were counted in MVC during the study period among of them dogs and cats were 73.13% and 26.86%. Medicinal cases comprise highest percentage (dogs 53.7% and cats 71.42%) in compare to surgical cases (dogs 20 % and cats 10.92%) and vaccination and health check up (dogs 26.23% and cats 17.65%). Among of the medicinal cases highest prevalence was found in parasitic diseases 16.97% in dogs and 25.21% in cats. After that diseases prevalence of digestive system (dogs 15.43% and cats 25.21%).Disease prevalence of special sense organ (dogs 13.58% and cats 11.76%).respiratory system infection (dogs 7.71% and cat 9.24%), (Table-2). There are much more facilities in MVC than SAQTVH. The owners of pet animals are conscious in India than Bangladesh.

**Table-1:Prevalence of clinical conditions in dogs and cats admitted to the Teaching Veterinary Hospital (TVH) in CVASU during the February 2014 to October 2014**

|  |  |  |
| --- | --- | --- |
| Parameter | No of affected dogs | No of affected cat |
| Digestive disorders | 40 | 14 |
| Respiratory disorders | 16 | 7 |
| Ecto parasite infestations | 29 | 7 |
| Endo parasite infection | 22 | 4 |
| Ear infection | 8 | 1 |
| Eye infection | 5 | 4 |
| Surgery | 54 | 22 |
| Vaccination & health checkup | 80 | 17 |
| Total | 254 | 76 |

**Table-2: Prevalence of clinical conditions in dogs and cats admitted to the MVC during the 02.6.2014 to 17.6.2014.**

|  |  |  |
| --- | --- | --- |
| Parameter | No of affected dogs | No of affected cat |
| Digestive disorders | 50 | 30 |
| Respiratory disorders | 25 | 11 |
| Ecto parasite infestations | 45 | 23 |
| Endo parasite infection | 10 | 7 |
| Ear infection | 15 | 4 |
| Eye infection | 29 | 10 |
| Surgery | 65 | 13 |
| Vaccination & health checkup | 85 | 21 |
| Total | 324 | 119 |

**Chapter-V**

**CONCLUSION**

The result of this study has given an overall idea about the prevalence of clinical conditions of dogs and cats at the study areas. However, this study would provide foundations for further extensive studies related to these clinical conditions which are necessary to design preventive and control measures against this clinical conditions in Bangladesh and India.

**Chapter-VI**

**REFERENCES**

Auld, T.D. 1990. Regeneration in populations of the arid zone plants Acacia carnie and A. oswaldii. Proceedings, Ecological Society of Australia 16: 267-272.

Dimski, DS. 1995. Therapy of inflammatory bowel disease. In Bonagura, JD (ed.) Current Veterinary Therapy XII. W.B. Saunders Co. Philadelphia, PA ;723-8.

Forsyth, D.M.; Parkes, J.P. 2004. Maximising the conservation benefits of the commercial goat industry in Australia. Unpublished final report for the Australian Government Department of the Environment and Heritage. 79 p.

Grice, A.C. and Barchia, I. 1992. Does grazing reduce survival of indigenous perennial grasses of semiarid woodlands of western New South Wales? Australian Journal of Ecology 17: 195-205.

Headey B, Krause P (1999). Health benefits and potential budget savings due to pets. Australian and German survey results. Aust. Social. Mon. 2(No. 2): 4 - 6.

Henzell, R.P. 1991. Rabbits, feral goats, mulga, and rangeland stability. Australian Vertebrate Pest Control Conference 9: 18-21.

 Johnson, Kate (May 2002). ["Parasites in pet feces cause puzzling infections"](http://findarticles.com/p/articles/mi_hb4384/is_5_36/ai_n28919851). Pediatric News. Retrieved 11 May 2009

Leib, MA and Matz, ME. 1995. Diseases of the large intestine. In Ettinger, SJ; Feldman, EC (ed.) Textbook of Veterinary Internal Medicine. W.B. Saunders Co. Philadelphia, PA; 1241-48.

Marks, SL. 1998. Management of canine inflammatory bowel disease. The Compendium on Continuing Education for the Practicing Veterinarian. ;317-32.

Plant M, Zimmerman EM, Goldstein RA (1996). Health hazards to humans associated with domestic pets. Annu. Rev. Public. Health. 17: 221 - 245.

Robertson ID, Irwin PJ, Lymberg AJ, Thompson RCA (2000). The role of companion animals in the emergence of parasitic disease. Int. J. Parasitol. 30: 1369 - 1377.

Sherding RG. and Johnson SE. 1994. Diseases of the intestines. In Birchard, SJ; Sherding, RG (eds.) Saunders Manual of Small Animal Practice. W.B. Saunders Co. Philadelphia, PA;;704-9.

Sherding, RG. 1994. Diseases of the Intestines. In Sherding, RG (ed.) The Cat: Diseases and Clinical Management. Churchill Livingstone. New York; 1239-50.

Sherding, RG. 1994. Lymphocytic-plasmacytic inflammatory bowel disease of cats. Veterinary International. 11-20.

Trepanier, L. 2009. Idiopathic inflammatory bowel disease in cats. Rational treatment selection. Journal of Feline Medicine and Surgery. 11(1):32-8.

Zoran, DL. 2010. Feline IBD: The good (diets), the bad (bacteria), and the ugly (diagnosis). Presented at the NAVC Conference..

Zoran, DL. 1999. Pathophysiology and management of canine colonic diseases. The Compendium on Continuing Education for the Practicing Veterinarian. 824-41.