



A REPORT ON CLINICAL PREVALANCE OF DISEASES IN PIGS AT RANGAMATI GOVERNMENT PIG FARM

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Roll No: 15/31

Registration No: 01446

Session: 2014-20015

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List of Abbreviations

Abbreviation and Symbol	Elaboration
CVASU	Chattogram Veterinary and Animal Sciences University
FMD	Food and mouth disease
HS	Hemorrhagic septicemia
N	Number
%	Percentage
ASF	African swine fever
BCS	Body conditioning score
CGI	Corrugated galvanized iron
BLRI	Bangladesh Livestock Research Institute
LRI	Livestock research institute
UVH	Upazilla veterinary hospital
CVH	Central veterinary hospital

Abstract

The study was planned to determine the rate of several types of infectious and noninfectious diseases in the Rangamati govt. pig farm. After taking all kinds of history and data for the last one year (2019) from the pig farm those data have been analyzed from several perspective and by software. There is some relation between disease and managerial problem. Some risk factors have also been identified. Most of the diseases can be prevented by appropriate managerial procedure but few of those are really tough to diagnose and treat. Vaccination and deworming are the two key factors to avoid most of the infectious and parasitic diseases in pig farm. By this study it has been tried to identify the major challenges in a pig farm and proper system of pig farming for the marginal pig farmer of Bangladesh. The result of the study is satisfactory. It has been found that the major problem in a pig farm is parasitic infection, major parasites found in the farm are *Ascaris suum* (63.8%), *Strongyloides ransomni* (16.1%), *Trichuris suis* (4.7%), *Metastrongylus* (3.4%) and *Oesophagostomum* (5.4%). Some nutritional deficiency is also common like anemia (70.5%), unthrifty appearance (9.8%), Poor reproduction (7.4%), Rough skin and coat (4.9%) and Excessive hair loss (7.4%) etc. Most common reproductive problem found in the farm is poor libido which is 57.8% because of obesity and old age. Chronic Coughing (28.6%), lung worm (43.7%), Pneumonia (16.8%), Swine influenza virus (10.9%) can be categorized as respiratory diseases in the pig farm. As other category form FMD (24%) is commonly seen in adult animal and rotaviral diarrhea (73.1%) in piglets. Pigs are more prone to diseases in summer and rainy season. Poor management and deficiency of common mineral in ration can sometime leads to vices like cannibalism (8.5%), tail biting (57.5%), ear biting (4.3%), aggressiveness (17%), fighting (12.8) etc. in pig farm.

Key words: Non infectious diseases, Risk factors, Managerial problem, Marginal farmer

Chapter-1

Introduction

The study was conducted at Rangamati government pig farm located at Manik Chari Rangamati. Total number of animals were 352 among them data from all the animal were collected where the number of male animals were 146 and the number of females were 206. Breeds includes Hampshire, Large white, Black white, Duroc, Hampshire, Oxford sandy and Black, Gloucestershire old spot, cross breed and etc. History of rearing system, breeds, vaccination and deworming, watering, vices, diseases occurred in respiratory system, reproductive system, nutritional deficiencies etc. throughout the year has been collected. BCS of the animals were determined on the basis of standard scale followed for measuring the BCS of pig. The main 4 points observed were Detection of ribs, Backbone, “H” bones and “pin” bones. In case of ‘Overly fat’ none of the 4 points were found and the score was 5, ‘Fat’ was the outcome too when 4 above stated point were missing and the score was still 4, When 4 points were barely felt the condition was ideal and the score was 3, if the above mentioned point were barely felt with firm pressure the condition noted was thin and the score was 2, when 4 above point were very clear the conditioned noted was ‘Emaciated’ and score given was 1. Though three rearing systems are followed worldwide for rearing of pigs, in Rangamati Govt. pig farm they were following 2 systems because of the scarcity of the land. Intensive system had been followed for the pregnant animal and for the animal after parturition. For the mature animal semi-intensive system was followed. The range of ages were piglets (Pigs from birth until weaning), Weaners (Pigs from weaning until the age of 10 weeks), Growers or Growing pigs (Pigs in the early stage of rearing), Fatteners or Finishing pigs (Pigs in the latter stage of rearing) and Adult pigs. Mainly 4 types category ration are served there those are starters, grower and finisher but often Lactating mother, pregnant and breeder male animals are served with special types of ration. Not all the animals have access to the marshy land, only mature enough pigs are allowed to play there. Some animals are kept in groups, some are kept alone and lactating mother along with their piglets are kept at sties to protect from injury and fight. Vaccination were done for some common diseases like Anthrax, FMD, HS, etc. Anthrax is not common at all here but as there were some cases few years back and that’s why its vaccine is given too as precaution.

Fenbendazole, Oxytocyanide, Albendazole etc. anthelmintic are being used for deworming of animal. Some parasites are commonly seen here such *Ascaris suum*, *Strongylus spp*, *Metastrongylus*, *Hyostromylus*, *Oesophagostomum*, *Balantidium* etc. Summer and rainy season is the season when most fatalities are seen due to parasitic infection. Some respiratory diseases like chronic coughing, pneumonia and swine influenza virus are found too at farm. Sometimes few of the pigs show reproductive inability for instance repeat breeder syndrome, anestrus, poor libido, brucellosis etc. Rota viral diarrhea and anemia are the two most common factor which causes severe mortality of piglets every year. Cannibalism, fighting, aggressiveness towards human, tail biting, prepuce sucking are the common vices found in the pig farm of Rangamati. Causes of those vices are thought to be dietary inadequacy, faulty management, inadequate environment etc. So, if it's possible to identify the disease pattern and the types of disease found in Rangamati govt. pig farm throughout the year it would be very beneficial for the farmer who wants to raise pig and establish pig farm near future. Therefore, this study has undertaken for following objectives:

1. Finding the diseases observed throughout the year
2. Risk factors for those diseases
3. Disease pattern in those animals

Chapter: 2

Review of literature

Prevalence

W C Shiel Jr. (2018) Stated that Prevalence is the proportion of individuals in a population having a disease or characteristics. Prevalence is a statistical concept referring to the number of cases of a disease that are present in a particular population at a given time, whereas incidence refers to the number of new cases that develop in a given period of time.

Introduction on pig farming

P Samkol et al. (2006) reported that Depending on the country and scale of production, pigs are important for farmers as a major source of income, as a side-line for raising funds for particular purposes (tuition for children, cultural and festivity events or paying a debt), or as a 'Saving bank' (Steinfeld 1998). Small holder pig farm varies amongst countries. For instance, in Philippines and Vietnam, a small farm has less than 20 pigs, while small farms in Cambodia and Laos have less than 5 pigs (FAO 2005). Large scale pig farms account for 15-20% of the total regional pig population (Northoff 2006). Khieu Borin et al. (2006) Stated that these farms are very well equipped, well managed and have a high productivity. Only exotic breeds are kept in this system and the breeds are mostly Yorkshire, Landrace and Duroc.

Ways of farming pigs

Usually pigs are farmed on a barn/hut (intensive) or on pasture (free-range) or both (semi-intensive)

1. Barn/hut (intensive): to be able to farm pigs on an intensive way, the barn or hut should be made of a humidity and heat resistant material such as concrete, the feed area and the rest area should be separated for easy cleaning. A feeding area of at least 3 meters wide is perfect for every two pigs. The rest area should be about half the size of the feeding area and should have a small pool for them to bath. Thus, if we consider these precautions, we will be able to easily farm pigs.

2. Pasture (free-range): to farm pigs on a free-range, first we need to have a large area with plenty of grass and soil, and the area needs to be fenced for the pigs not to roam too far off and be secure. Farmers should be careful about the structure of the fence, because adult pigs can damage the fence and escape.
3. Semi intensive system can also be followed sometimes in rural area and where there is small amount of available pasture land.

C H Ritchil et al. (2013) reported that pigs were reared by girth tethering (97%) followed by straw shed housing (2%), and fencing (1%). It was found that girth tethering was the most popular and widely used housing system where rope is used at chest girth or neck to keep the pig nearby any hard such as bamboo or tree. Kumaresan et al. (2009) indicated that in traditional farming practices, respondents mostly followed the intensive housing system with temporary pig sties built with locally available resources made of wood or bamboo and the roof material is made of CGI sheet and thatch type.

Sanitation:

King et al. (1998) reported that the sanitary condition of 7.5% pig farms was good but the rest 97.5% was poor. Sanitation is important to keep the pig's disease free. Johnson et al. (2001) recommended to house in a barn and removal of manure daily to keep the floor dry to reduce odor. Moore et al. (2002) suggested that proper ventilation is required to remove ammonia, methane and hydrogen sulfide gases.

Disease prevalence

Peter et al. (2007) indicated that abscess, botulism, bovine viral diarrhoea, brucellosis, bursitis, coccidiosis, cystic ovaries, hematoma, lameness, laminitis, listeriosis, mastitis, meningitis, metritis are common diseases for pigs. Hossain et al. (2011) suggested that diseased pigs could be isolated and treated. Hossain et al. (2007) also reported that Only 8.5% people used vaccine against Anthrax, HS, FMD and others in case of HS, a booster dose after 15 days of first dose could be used the interval of two vaccinations should be 15 days. Inadequate management can lead to diseases within pig farm. Pigs are susceptible to several diseases such as diarrhoea, particularly in intensive farming systems where crowding may be a problem. So, it's necessary to make sure that they are being vaccinated and fed properly until they are ready for the market.

Feeding and watering

Pigs should be fed of around 18% of crude protein. Table scraps and wastes are not suitable to feed the pigs, although they are omnivores, it is not a wise path to follow if we want to have healthy pigs. Pigs should be fed on plant materials such as lettuce, corn and other vegetables, meat is not appropriate to feed them with, since it will increase their body fat and can decrease their growth moreover their profit. Pigs must consume 6 to 10 kg of feed per day to be able to grow healthy. Water is important and many times a forgotten nutrient. A large clean water supply will be needed to maintain the pig's necessities, for instance, a growing young pig can drink to approximately 10 litres of freshwater per day while an adult pig can drink 25 to 50 litres per day.

Common parasites of pig:

T R dey et al. (2013) Reported in a study that they identified 12 twelve types of parasites were identified. Among identified parasites six (6) species of nematodes such as *Ascaris suum* (50.9%), *Strongyloides sp.* (29.1%), *Trichuris suis* (9.1%), *Oesophagostomum sp.* (12.7%), *Ancylostoma sp.* (3.6) and *Hyostrongylud rubidus* (1.8%); that of 3 species of trematodes such as *Fasciolopsis buski* (14.6%), *Dicrocoelium sp.* (8.2%) and *Schistosoma suis* (7.3%); that of 3 species of protozoa such as *Eimeria spp.* (56.4%), *Isospora suis* (9.1%) and *Balantidium coli* (40%).

Clinical signs

Sows

- Coughing.
- Loss of body condition.
- Hairy pigs.
- Vomiting.
- Blood in feces but rarely.
- Anemia.
- Diarrhea - sloppy.

Piglets (Thread worm)

- Coughing.

- Stiffness.
- Pain.
- Vomiting.
- Bloody diarrhea.
- Some mortality.

Weaners and growers

- Coccidiosis could cause diarrhea within 7 to 10 days of entry to continually used pens.
- *Strongylus* infections (poor growth and sloppy feces) within 3 to 4 weeks
- Coughing.
- Blood in feces.
- Pneumonia / heavy breathing.
- Pale pigs.

Diagnosis

This is based on symptoms and identification of the parasites. Laboratory examination of feces for worm eggs.

Causes

- Management systems that allow regular access to feces.
- Feces allowed to accumulate for more than 3 - 4 days (allows eggs to become infective).
- Moist wet areas encourage survival of eggs.
- No all-in, all-out management.
- Permanently populated yards or paddocks outdoors.
- Failure to monitor feces for egg output.
- Failure to carry out routine treatments when indicated.
- Continuously used pens increase the risks of infection.
- Wet dirty floors.
- Carrier pigs.

Prevention

Controlling parasites requires an understanding of their life cycle. Procedures can then be adopted that together with anthelmintic, break this cycle and thus prevent re-infection. There are two types of life cycle, a direct one and an indirect one.

Lice and flies

U C Braae et al. (2011) reported that the overall prevalence of ectoparasites in both confinement and free-range system was 39% and consisted of lice, hard ticks, fleas and mites. The prevalence of ectoparasites within the confinement production system and the free-range production system was 24% and 84% respectively. The prevalence of lice was 20% within the confinement production and 63% in the free-range system. As major factors in the spreading of diseases on pig farms, lice and flies' infestations pose a serious health threat.

Treatment

Controlled application of anthelmintic.

Some common diseases of pig:

Foot-and-Mouth-Disease (FMD)

R P Kitching et al. (2002) reported that in intensively reared pigs, the introduction of FMD results in severe clinical disease and vesicular lesions in adult and fattening animals, and high mortality in piglets. Vaccination of uninfected herds can assist FMD control and eradication programmes by reducing susceptibility of pigs older than 12 to 14 weeks and providing early protection to piglets through maternal antibody. FMD is caused by a *picornaviridae aphthovirus*. There are 7 main serotypes which have in their turn many strains. More than 60 subtypes of the virus have been identified so far, therefore it's difficult to develop an effective vaccine against it. The symptoms of FMD include lameness, excessive salivation, blisters, loss of appetite, fever, and death in severe cases.

Rabies

Rabies is an infectious disease found in all species of homoeothermic animals, transmissible in humans, characterized by severe nerve disorders, expressed by hyperexcitability and aggression, followed by paralysis and death. To a greater or lesser extent, all warm-blooded animals are

susceptible to rabies infection. In pigs, rabies usually evolves in a quick form and is manifested by strong hyperesthesia. Incubation is between 15-30 days. The pig becomes aggressive, shaky, shrieks or shouts in a hoarse voice, quickly attacks other pigs or other animals, causing serious wounds by pulling tissues. The sows devour their piglets.

Unfortunately, animals infected with rabies can't be saved and the final outcome is death.

Exudative dermatitis (greasy pig disease)

C L Ecuyer et al. (1966) reported four outbreaks of an infectious, exudative skin disease of 6 to 10-week-old weaned pigs, are described. The disease was seen in fattening barns where weanling from several sources were mixed. This disease is caused by an infection with the *Staphylococcus hyicus* bacteria and it manifests through skin lesions. Mortality can occur due to greasy pig disease in severe cases that are left untreated. The lesions first appear as dark spots on the skin, which spread and become flaky, with a greasy feel. The infection is treated with antibiotics, skin protectants, and autogenous vaccines.

Respiratory diseases

The most common symptoms of respiratory diseases are coughing, sneezing, heavy breathing, reduced growth, and even mortality. To treat this type of diseases, antibiotics are often given in feed or water or as injectable substances. Certain environmental conditions or poor ventilation can worsen respiratory diseases or help spread them. For example, high levels of ammonia found in the environment can damage the respiratory tract and thus making pigs more prone to infections. Among the infectious agents responsible for the occurrence of respiratory diseases are *Streptococcus suis* and *Pasteurella*.

Swine dysentery

R Hughes et al. (1975) reported, Pigs that suffer from dysentery have diarrhoea, with or without the presence of blood. This disease is caused by the bacteria. Pigs that suffer from dysentery in the post-weaning stage have reduced growth rate; in more severe cases sudden death can occur.

Mastitis

Mastitis is a disease present in sows and it has symptoms such as reduced milk production, higher body temperature and loss of appetite. The disease is caused by a bacterial infection of the mammary glands, where skin discolorations can be observed. Antibiotics and anti-

inflammatory drugs are the most efficient treatment for mastitis. Usually, a combination of oxytocin and corticosteroids is prescribed to treat mastitis.

Porcine parvovirus

Pregnant sows can become infected with the parvovirus (PVV) and in some cases, reproductive diseases can occur. Usually, the reproductive disease occurs in gilts, the reproductive performance being overall affected. Pig litters are decreased in size because of stillbirths and mummification. The parvovirus is somewhat more difficult to diagnose because other reproductive diseases present similar symptoms. The virus can survive outside its host for several months.

Malnutrition

This is one of the most common pig diseases, easily recognizable because the animals grow slowly and are visibly thin. In healthy pigs, the only bones that should be visible are the shoulder blades. If farmers can notice the backbone, the hips or the ribs, the pigs are too thin. Pigs have a great advantage of growing rapidly. If they are growing too slowly, it's most likely because of malnutrition. Malnutrition occurs because of insufficient or poor-quality feed. Growing pigs need more feed and of higher quality than adults. Lactating sows also need more high-quality feed to produce milk; otherwise, they will start to lose weight.

Salt poisoning

Salt poisoning occurs because of improper feed. Pigs fed with restaurant leftovers or with food leftovers from various sources may contain too much salt. Pigs affected by salt poisoning appear to be blind, they lose their balance and fall over, they vomit and have seizures. To prevent this problem, it's needed to ensure quality feed for pigs.

African swine fever (ASF)

M L Penrith (2009) reported that ASF is a devastating haemorrhagic fever of pigs that causes up to 100% mortality, for which there is no vaccine. African swine fever is caused by the *Asfarviridae* family of viruses, which are distinct from the viruses associated with Classical swine fever. There are 22 known types of the ASF virus. The ASF infection can be introduced through several ways: contaminated feed, tick, and lice bites, contaminated medical equipment and infected pigs.

There is no treatment for the African swine fever or a live or attenuated vaccine to prevent this disease, therefore strict biosecurity measures are the only ways to prevent infection and the spreading of infections.

Disease prevention in pigs

Since prevention is the most efficient way to avoid pig diseases and other health problems, it's important to know which are the main measures to take for disease prevention in pig farms. While some disease or health problems are treatable, others can't be treated and can become highly damaging for the entire pig stock. Some of the most important measures for diseases prevention include the following:

- Pigs must be grown in enclosed spaces respecting hygiene conditions;
- Farmers must work closely with veterinarians to prevent diseases, infections and other health problems which occur in pig farms;
- New stocks should be purchased only from sanitary-approved holdings, accompanied by official documents;
- Feed and water must be ensured with respect to quality parameters and without administering in the feed of pig's slaughterhouse waste or non-sterilized household;
- Compliance with the welfare rules and the hygiene conditions in the means of transport for the moving swine;
- The veterinarian should be notified immediately of any signs of disease or mortality in animals;
- Farmers should collaborate with the veterinarian appointed for the clinical examinations and the collection of samples for laboratory examinations;
- Fresh meat and pork products resulting from pig slaughtering in their own facilities should be consumed and/or sold only after the specialized examination provided by the veterinarian or local authorities;
- The bodies of dead pigs infected or suspected to be infected with contagious diseases must be handled by neutralization units, with the support of local authorities.

Chapter: 3

Materials and method

Study area and study population

Data from a total number of 352 animal were taken from Rangamati govt. pig farm, Manikchari, Rangamati, Chattogram. Where animal from all ages, breeds, sex and housing were included.

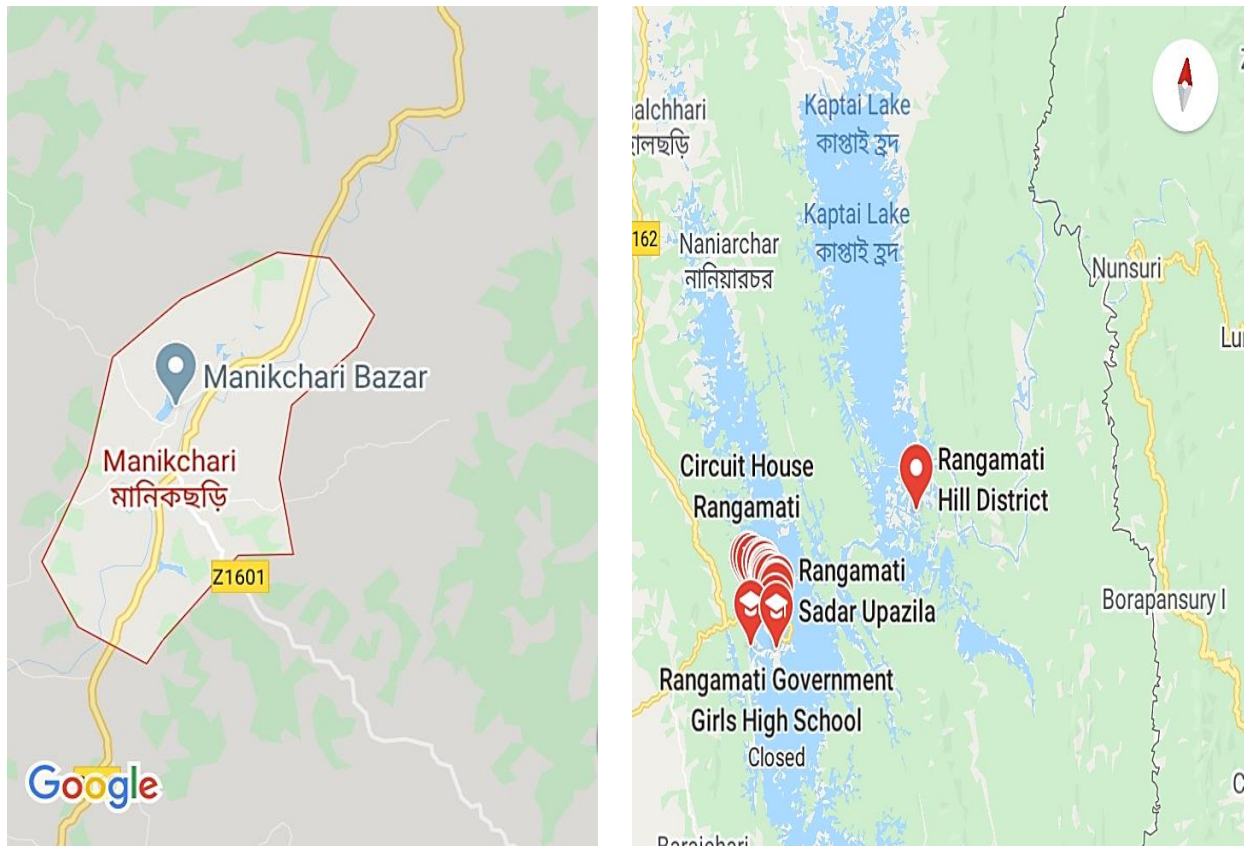


Figure: 1 Study area, Rangamati Govt. pig farm, Manikchari, Rangamati, Chattogram.

Experimental design

All the data were taken to Microsoft excel, coded perfectly and prepared for STRATA a well-used software for statistical analysis of data. Then the several parameters of the data were analyzed thoroughly to get a perfect result.

Data collection

The data was collected from record books of Byre section of Rangamati Government pig farm, Manikchari, Rangamati. with the help of Record Keeper.

Data analysis

The data were checked manually for obvious inconsistencies, recording errors or missing data. The potential errors were evaluated and corrected, if possible, following discussion with the relevant veterinarians were done. Data with suspicious values were excluded.

Period of data collection

For this study, data were collected at December 2019; several visits were made during the period to collect necessary data from the pig farm.

Determination of the diseases

After performing the analyses of data several tables and graphs were found. Percentage of those diseases and factors were also been compared.

Photography

All the picture was taken at the time of the collection of data and related information. The images were slightly modified for the better illustration of the study.

Picture gallery



Figure: Several pig pan and sties

Picture Gallery

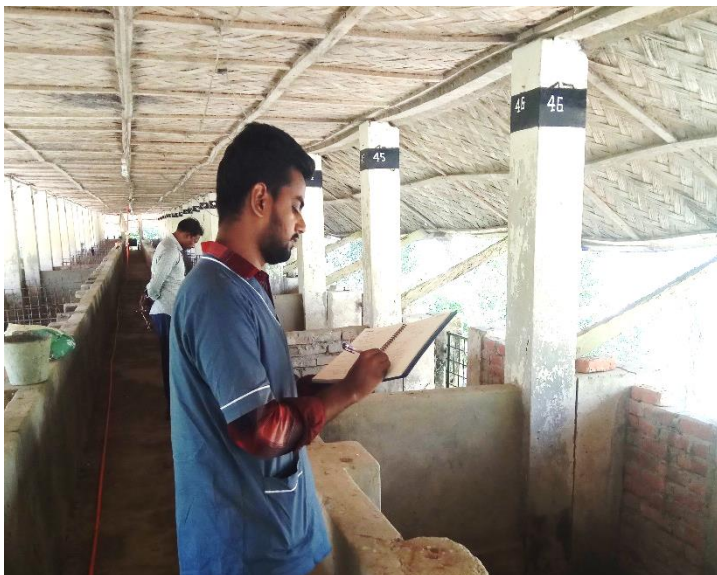


Figure: Antibiotic used for pig, Marshy land, Data collection, Lactating pig

Chapter 4

Results

Table: 1 Frequency distribution according to age category

Categories	N	(%)
Piglets	101	28.7
Weaners	62	17.6
Growing pigs	52	14.8
Fatteners	60	17.1
Adult pigs	77	21.9

In frequency distribution according to the age category the number of piglets were 101 which is the 28.7% of total animal, Percentage of weaner animal was 17.6, Growing pigs were 14.8%, fatteners were 17.1% and percentage of adult pigs was 21.9 according to table: 1.

Table: 2 Frequency distribution according to sex

Sex	N	%
Male	146	41.5
Female	206	58.5

Number of male and female anima were 146 and 206 respectively. Which is 41.5 and 58.5 in percentage.

Table: 3 Breed wise pig distribution in the farm

Breed	N	%
Hampshire	161	45.7
Cross	139	39.5
Duroc	17	4.8
Hereford	11	3.1
Large black	11	3.1
Gloucestershire Old Spot	5	1.4
Large white	4	1.1
Oxford sandy and black	4	1.1

Among the 8 breed Hampshire was 45.7% which is big in number and the second largest breed present at that farm was cross breed animal.

Table: 4 Distribution of pigs according to BCS

Categories	N	%
Emaciated	29	8.2
Thin	55	15.6
Ideal	261	74.2
Fat	4	1.1
Overly fat	3	0.9

BCS of Most of the pigs were ideal which is 261 in number and 74.2% of the total number of animals.

Table: 5 Vaccination status of the pigs in the farm

Vaccination	N	%
Yes	176	50
No	176	50

50% of animal were vaccinated in that farm and the other half of the animal which was not vaccinated was not at the proper age of vaccination.

Table: 6 Deworming Status of the pig

Deworming	N	%
Yes	175	49.7
No	177	50.3

Deworming was done in 176 (Table: 6) animal which is 49.7% of total animal.

Table: 7 Common Parasitic diseases

Disease	N	%
<i>Ascaris suum</i>	95	63.8
<i>Strongyloides ransomni</i>	24	16.1
<i>Trichuris suis</i>	7	4.7
<i>Metastrongylus</i>	5	3.4
<i>Oesophagostomum</i>	8	5.4

Among 5 most occurring parasitic diseases *Ascariasis* was the 63.8% (Table: 7) and it's naturally found in piglets. *Strongylus* is the second common parasitic disease found in the pig farm of Rangamati.

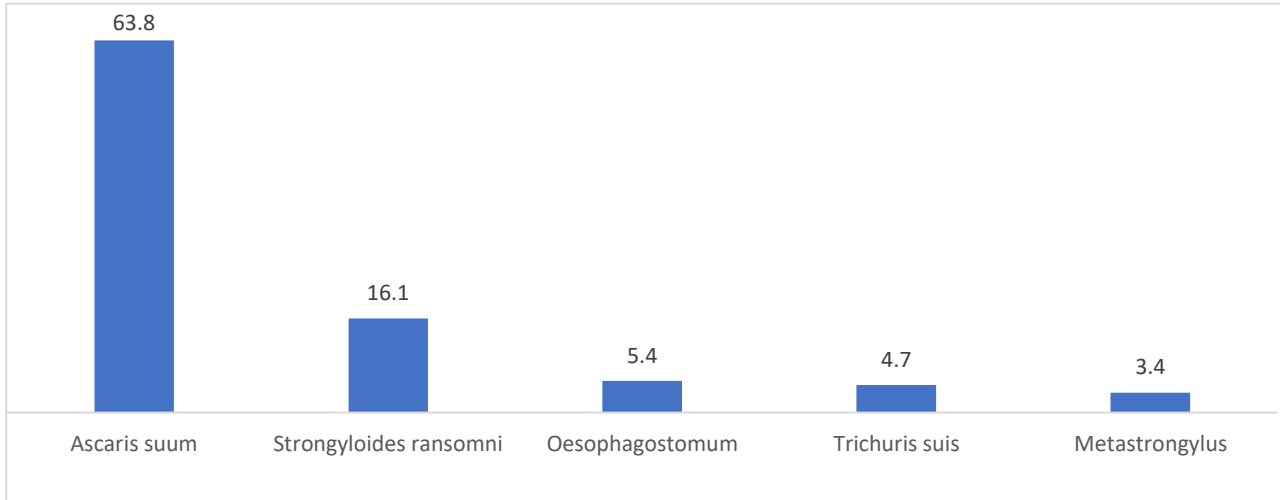


Fig: Parasitic diseases

Table: 8 Nutritional deficiencies

Disease	N	%
Anemia	86	70.5
Unthrifty Appearance	12	9.8
Poor reproduction	9	7.4
Rough skin and coat	6	4.9
Excessive hair loss	9	7.4

Anemia is commonest among all category nutritional deficiencies in the farm which is generally occur in small animal of the farm.

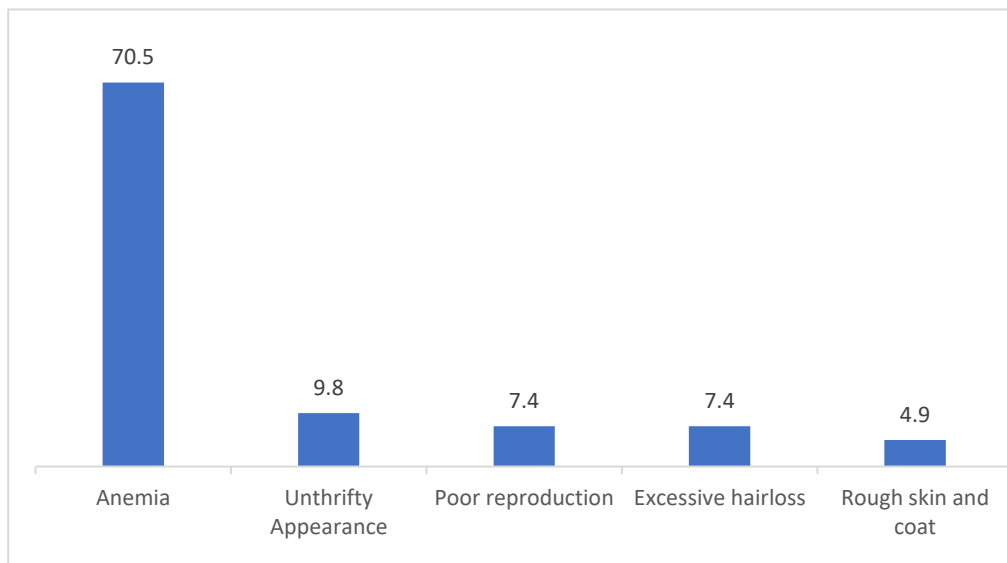


Fig: Nutritional diseases

Table: 9 Respiratory diseases

Disease	N	%
Lung worm	52	43.7
Chronic coughing	34	28.6
Pneumonia	20	16.8
Swine influenza virus	13	10.9

Lung worm, Chronic coughing, Pneumonia and Swine influenza virus is respectively 43.7%, 28.6%, 16.8% and 10.9% as respiratory disease category.

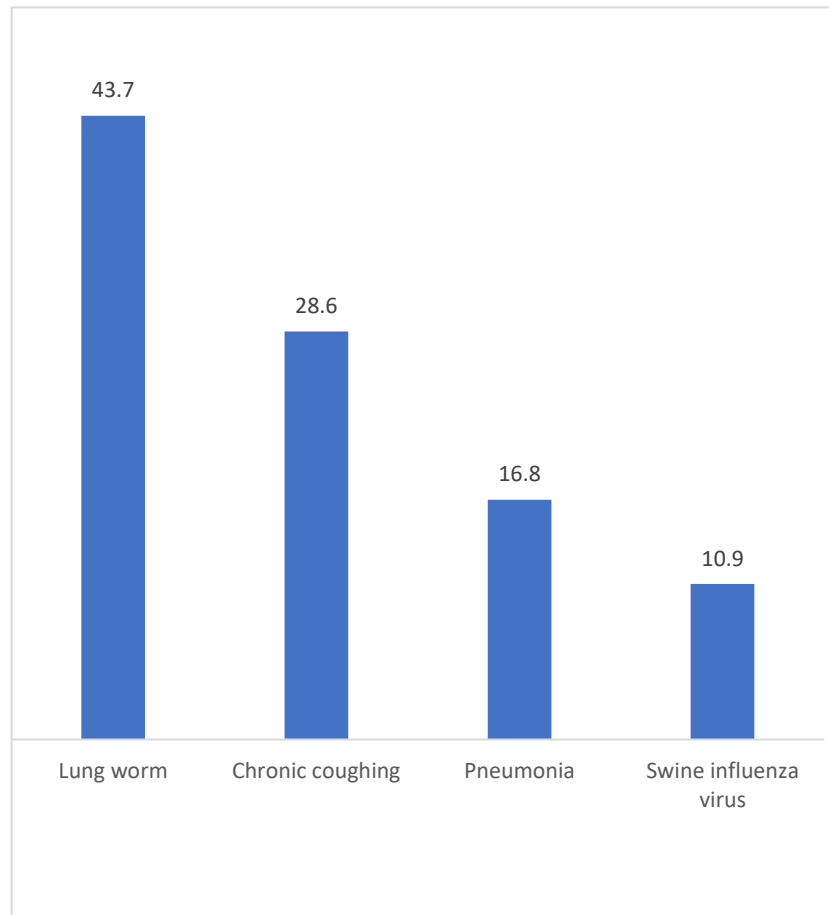


Fig: Respiratory diseases

Table: 10 Reproductive diseases

Disease	N	%
Repeat breeder syndrome	5	11.1
Anestrous	7	15.6
Poor libido	26	57.8
Brucellosis	7	15.6

Some common reproductive disorder seen around the year too and poor libido is the mostly appeared one it found in the old animal and in the animal, which are more obese. Percentage of anestrus and abortion because of brucellosis are same in number which is 15.6% (Table: 10).

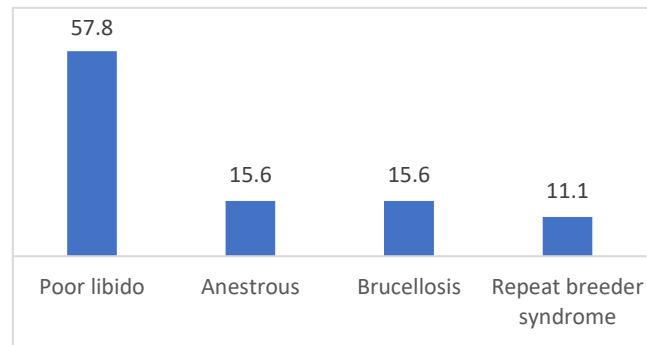


Fig: Reproductive diseases

Table: 11 Other common diseases in the farm

Disease	N	%
HS	3	2.9
FMD	25	24.0
Rota viral diarrhea	76	73.1

Rota viral diarrhea which in the category of other common diseases is another most occurring disease in piglets and the percentage of this disease is 73.1% (Table: 11). FMD is found in adult animal throughout the year and it causes fatalities in farm sometime.

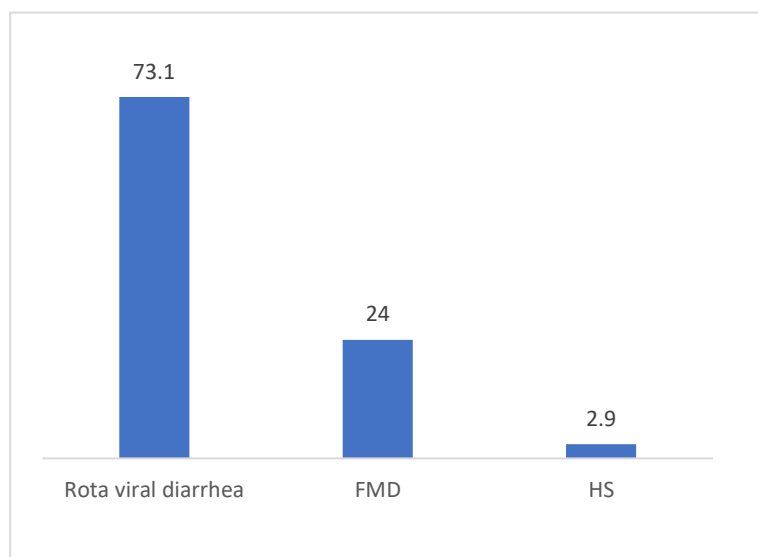


Fig: Other common diseases

Table: 12 Common vices among the pigs in the farm

Vice	N	%
Tail biting	27	57.5
Aggressiveness	8	17.0
Fighting	6	12.8
Cannibalism	4	8.5
Ear biting	2	4.3

Percentage of vices seen in animal are cannibalism 8.5%, Fighting 12.8%, Tail biting 57.5% and Ear biting 4.3% and these can be checked by proper management as mentioned before.

Chapter 5

Discussion

In my study it was found that the prevalence of endoparasites is insignificantly higher in piglet than grower and adult this result is supported in Nigeria (Sowemimo et al. 2012), in West Indies (Tkeshawe et al. 2009), and in China (M Lai et al. 2011). The present study differs from Botswana (H 2014), in India (Dutta et al. 2006), in Nordic countries (A Roepstorff et al. 1998) and in China (J Boes et al. 2000) The present report is higher than in Korea (H A Ismail et al. 2010), in Kenya (C J Nganga 2008), in Zimbabwe (C M Marufu et al. 2008), and in western Iran (S S Mohammadi et al. 2003). The differences in the prevalence may be due to the differences in climate conditions, husbandry practices, breeds and inherent characteristics such as host immunity in the study region. Nurjahan begum et al. (2013) reported that pigs are highly susceptible to parasitic infection influenced by sex and age. I A J M Eijck et al. (2005) Reported the highest prevalence of *Oesophagostomum* was in sows but in my study, it was more prevalent in Grower, weaner and adult animal and piglets were almost free from this parasite. Deworming could be a good factor to prevent parasite in adult where piglets were more vulnerable to parasitic infection. JC Kim et al. (2002) reported in a study that factors including sub-optimal nutrient and energy intake associated with lowered digestion and absorption, immature immune function and psychosomatic factors caused by weaning can compromise intestinal barrier function through mucosal damage and alteration of tight junction integrity. As a consequence, pigs at weaning are highly susceptible to pathogenic enteric diseases which can be related with the diarrhea in piglets and weaner in the pig farm. Sarker et al. (2014) Reported in a study that crude attack for diarrhea was 61%, and the case fatality rate was 20% among piglets with diarrhea. He also observed that rotavirus specific attack was 100% which is more than my result. In my study it was revealed that 73% of piglets were affected by rota viral diarrhea in one-year period. RJ Love et al. (2001) reported that reproductive disease affected pig over period of 21 weeks of age and common ones were mummified fetus, still born piglets with arthrogryposis, craniofacial deformities and degeneration of the brain and spinal cord along with occasional abortions. Where in my study the more common finding in case of reproductive diseases is poor libido (57.8%), anestrus (15.6%) and brucellosis (15.6). Pigs were mostly affected in summer and rainy season also diet deficiency in important mineral prone to nutritional diseases in animal of all ages.

Chapter 6

Conclusion

This study was conducted to detect the present situation of occurrence of clinical disease and disorder in the study area. From the study it has been observed that piglets are the most susceptible to diseases and almost all kinds of animal are prone to parasitic diseases. Parasitic infection causes heavy economic losses in every year. So, regular anthelmintic treatment should be given to prevent parasitic diseases. Nutritional deficiency in animal can also be checked by giving them a balanced ration. Appropriate management of the farm and biosecurity should be maintained restrictedly. Further, research should be required to determine the accurate prevalence of diseases in the pig farm. Proper planning and program should be undertaken to prevent and control diseases in the Rangamati govt. pig farm.

Chapter: 7

Limitations

Though whole the study has been done carefully and sincerely there was some limitations too. Some disease couldn't be diagnosed properly due to the lacking of proper diagnostic tool and that's why was not listed in the record book. It would have been better if data of more period could have been collected. Some more visit in the farm could be done to collect more appropriate data but as the location of the farm is in the remote area it was really tough to reach there.

Chapter: 8

Recommendation and future perspective

Finding of the result would be useful to the farmer for effective pig farming. The study would be continuing further in a wide range of population with long time for the better understanding of the disease prevalence in the pig farms of Bangladesh.

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Biography

Shariar kabir was born in 15th October 1995 at Rangunia, Chattogram, Bangladesh. His father's name is Mohammed Humayan Kabir and mother's name is Jasmin Akther. He passed his Secondary School Certificate (SSC) examination from Narangiri govt. High School in 2012 and Higher Secondary Certificate (HSC) examination from Govt. City College, Chattogram in 2014 Obtaining a 5 GPA in Both exams. He is a student of Doctor of Veterinary Medicine (DVM) at Chattogram Veterinary and Animal Sciences University, Khulshi, Chittagong, Bangladesh. During undergraduate period he has received clinical training on veterinary medicine from UVH, kaptai, Centarl cattle breeding farm savar, Purbachal pet hospital of CVASU, CVH, BLRI, LRI, Dhaka and Chattogram zoo etc.

His primary research interest is in wild animal specially in captive animal of zoo. Shahriar lives with his family at Chandroghona, Rangunia. In his free time, he loves to read self help books and explores the city for good non vegetarian cuisine.