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PREVALENCE OF INTESTINAL PARASITES IN CATTLE SLAUGHTERED IN ABA

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ABSTRACT

A study on the prevalence of gastrointestinal parasites of cattle was carried in ogbor hill, Aba, Abia state. Of the 135 fecal samples examined, 68 male and 67 female cattle, 118(87.41%) was infected with at least one intestinal parasites. Ascaris spp was more prevalent 27.97% followed by Monezie 19.49%, Bonostomum 16.10%, Trichuris14.41%, Strongyliod 13.56% and Toxocara spp 8.48% respectively. The study reveals that there is a high tendency for increase in the transmission of helminth zoonoses within the studied area. But with personal hygiene and environmental sanitation, the prevalence of helminthic diseases can be reduced.

Key word: Gastrointestinal parasite, Helminthes, Ruminants

INTRODUCTION

Parasitic infections (Helminthiasis) are major health problem in domestic ruminants throughout the world. Helminths or worms cause a wide range of health problems to both man and animals.(1) The domestic ruminates have been found to suffer from various diseases such as paramphistomiasis, fascioliasis etc. due to presence of different species of helminth parasites in the gastrointestinal tract.

Morbidity and mortality have been observed in helminth infected cow due to parasitic infections and these diseases lead to great economic losses and affect the productivity directly or indirectly worldwide. The helminth infections of ruminants are mostly caused by nematodes (such as *Ostertagia sp., Capillaria sp.,Trichuris sp.,*

Strongyliodes sp.), cestodes (such as *Moniezia sp Taenia sp.)* and Trematodes (such as *Dicrocoelium sp., Fasciola gigantica, Amphistomes*).[2] According to Regassa *et. al.*,[3] ruminants infected by gastrointestinal helminth parasites cause loss to farmers through; low milk production, low fertility, reduced work capacity, involuntary culling, treatment cost, mortality and reduction in the market value of infected animals.

In developing countries, gastrointestinal (GI) parasites are associated strongly with grazing management since pastures are usually not provided. Most pastures for animal rearing are public and are used and shared by animal owners without any regulations or guidelines. The control of cattle parasites has many beneficial effects related to productivity, including increased weight gain, feed conversion, milk production, reproductive performance, carcass quality and immune status, and may reduce morbidity and mortality.

A lot of research on the gastrointestinal parasites of cattle has been done but only few researches has been reported in Aba, one of the major cities in south eastern Nigeria thus this study is aimed to investigate the prevalence of intestinal parasites of cattle slaughtered at water side abattoir, ogbor hill aba.

MATERIALS AND METHODS The Study Area

The study was conducted in Aba abattoir. Aba abattoir is located at ogbor hill Aba north local government area , and lies between latitude 5 05 to 5 30 north and longitude 7 15 to 7 40 East in Abia state Nigeria. It has an area of 23km^2 and a population of 107,488 as at 2006 census. [4] The abattoir is owned by the government and managed by the state ministry of agriculture and natural resource.

Sample collection

Visits were done to the abattoir on each day of the sample collection during the study period (April – August 2015) as early as 6:00am when the animals are usually taken to the abattoir. The animals were identified and labelled as male or female.

A total of 135 samples of fresh faecal samples (directly from the rectum of slaughtered cattle, two sample per animal) from cattle were collected in clean labeled sterile vials, preserved in 10% formalin and taken to the laboratory for microscopic examination.

Sample Examination

The Formol-ether concentration technique was used to analyze the samples. 1 g of stool sample was emulsified with 4 ml of 10% formol saline in a test tube. The mixture was filtered into a test tube using a cloth gauge and 3-4 ml of diethyl ether was added and shaken vigorously and allowed to stand for two minutes. The mixture was then centrifuged at 1000 revolutions per minutes (1000 rpm) for 3 minutes. Using a glass rod, the faecal debris from the side of the tube was loosened and the tube inverted to pour off the supernatants. The tube was returned to its original upright position and the fluid from the side of the tube allowed draining to the bottom. The deposit was mixed by tapping the tube with the finger and using a Pasteur pipette. A drop of the sediment was applied on a microscope slide; covered with a cover slip and examined under the microscope using ×10 and ×40 objectives. Lugol's iodine was also used as a stain. [5, 6]

RESULTS

Out of the 135 cattles examined, comprising of 68 male and 67 female cattles, 118(87.41%) were infected with at least one (1) intestinal parasites. 62(45.93%)

male were infected while 56(41.48%) were infected as revealed in (Table1). A total of six (6) parasites were found from the fecal samples as follows: *Monezie spp 23(19.49), Strongyloid spp 16(13.56), Toxocara spp 10(8.48), Ascaris spp 33(27.97), Trichuris spp* 17(14.41) *and Bonostomum spp 19(16.10*) respectively (Table 2). There is a significant difference between cattles whose body form are good to those with emaciated bodies, table 3.

Table 1: Gender Distribution of Helminths parasites of slaughtered cattle in Aba Abattoir, Abia state.

Sex	No examined	No infected (%)
Male	68	62(45.93)
Female	67	56(41.48)
Total	135	118(87.41)

Table 2: Prevalence of gastrointestinal helminths parasite species of slaughtered cattle in Aba Abattoir, Abia state.

Parasites	No detected	% detected
Monezie	23	19.49
Strongyloid	16	13.56
Toxocara spp	10	8.48
Ascaris spp	33	27.97
Trichuris	17	14.41
Bunostomum	19	16.10
Total	118	100.0

Table 3: Prevalence of gastrointestinal parasites of cattle slaughtered in Aba in relation to body form.

Body form	No examined	No infected	% infected
Good	62	52	83.9
Moderate	49	42	85.7
Emanciated	25	24	96.0
Total	136	118	86.8

DISCUSSION

The result obtained from the study indicates a relatively high prevalence of gastrointestinal helminths in cattle slaughtered in ogbor hill abattoir in aba, Aba south local Government Area of Abia state. The study revealed that 87.4% of the sampled animals within the period were infected with either one or more species of parasitic helminths. These results are in line with findings of Kingsley *et al.* (2013)[7] who found as high as 62.1% prevalence rate of helminthes in Port Harcourt, South-South, Nigeria and in Umuahia South Local Government Area, Abia State, Nigeria.[8] However the result of Yahaya *et al* (2014)[9] indicated a lower prevalence of 34.9% in wudii local government area of kano. The result suggests that most of the cattle brought for slaughter in aba abattoir were infected. The data from this study showed that Ascaris was more prevalent (27%) while toxocara spp had the least (8%). This is in conformity with the findings of Edosomwan *et al* (2012).[10] The high prevalence of these parasites in cattle may be due to their free-range grazing management which increased their chances of picking up the cyst, ova, larvae or the intermediate host of these gastrointestinal helminth parasites attached to the pastures.[3] Most of these cattle brought for slaughter are also transported in group directly from neighboring States such as Yobe and Borno, Bauchi States, and other North Eastern part of the country as well as neighboring countries such as Niger, Chad and Cameroon by vehicles or transhuman, through nomadic herders which also increases the chances of being infected and can also be due to high moisture content and temperature of the environment which favors the growth and development of eggs/larvae of these parasites, as the study was conducted during rainy season. furthermore, during this season the pastures grow abundantly resulting in increased contact between the host and parasites.

CONCLUSION

Various gastrointestinal parasites have been found in cattle in the study area. These parasitic infections as recorded in the present study pose a great challenge and constraint in achieving increased productivity, Hence, the high prevalence rate of helminthiases in livestock needs to be checked periodically. Regular control measure should be practiced and farmers educated in proper use of anthelminthes. Adoption of hygienic practices during feeding and slaughtering of cattle should be encouraged among the butchers and farmers. There is also a need to study in detail the relative economic importance of these gastrointestinal helminth parasites infecting cattle and as its high prevalence and burden suggests significant losses in their production.

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