

Short Communication

PUBLIC HEALTH ISSUES AND OBSERVATIONS MADE DURING MEAT INSPECTION AT BODIJA MUNICIPAL ABATTOIR, IBADAN, OYO STATE, NIGERIA

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INTRODUCTION

The provision of wholesome meat for the public remains the pre-occupation of the veterinary public health practitioners through systematic examinations of food animals such as cattle, goats, sheep and pigs, before and after slaughter with a view to ascertaining whether they are infected by certain scheduled or zoonotic diseases (Thorton, 1968). Therefore, the aim of meat inspection is to provide safe and wholesome meat for human consumption (Herenda *et al.*, 1994). Several reports have been made on the prevalence rates of diseases of public health importance in Nigeria (Babalola and Van Veen, 1976; Antia and Alonge, 1981; Nwosu, 1987) and the abattoirs in the country have continued to experience infrastructural decay and low quality staff leading to general breakdown in the thoroughness of meat inspection. Cleaning and sanitation are always considered as important and integral part of the measures necessary to avoid the transmission of zoonotic diseases (Alonge, 2001). In most communities, meat has long occupied a special place in the diet, for a variety of reasons including taste preference, prestige, tradition and availability, with the nutritional aspects being included more recently (Rogowski, 1980). This study was therefore undertaken to assess the public health issues related to meat inspection and observed practices involved in meat processing at the Bodija Municipal Abattoir. This is with a view to pointing out ways of improving the activities of the meat inspectors and processors in order to provide safe and wholesome meat for the public.

KEY WORDS: Meat processors, Hygiene practices, Abattoir, Meat products, Nigeria

MATERIALS AND METHODS

The animals

The cattle and the goats slaughtered at Bodija abattoir were brought in from northern Nigeria and neighbouring African countries of Benin Republic, Burkina Fasso, Cameroon, Chad, Mali and Niger; while the pigs were brought in from Ibadan and its environs. Animals were identified based on sex, age and breed.

Meat Inspection

The inspection was conducted on week days (Monday - Friday) between 8.00 a.m. and 12.00 noon which was the peak period of slaughtering. Slaughtered animals were inspected at post-mortem through visual inspection, palpation cum incision and a tentative diagnosis was based on the lesions observed on the organs and tissues of the animals.

Unhygienic Practices

The unhygienic and sharp practices of the abattoir workers were based on visual observation.

RESULT AND DISCUSSION

A total of 16,001 animals comprising 8,728 (54.55%) cattle, 6,628 (41.42%) goats, 52 (0.32%) sheep and 593 (3.71%) pigs were inspected during routine meat inspection among the slaughtered animals. The numbers of animals slaughtered, their sex and age distribution were recorded (Table I). Fifteen suspected disease conditions were observed (Table II). In the same vein, several unhygienic and sharp practices exhibited by the abattoir workers were also documented (Table III).

TABLE I: Sex and age range distributions of the different species of food animals slaughtered and examined

		Number of food animals screened				
		Cattle	Goats	Sheep	Pigs	Total
Sex	Male	3517	4518	24	189	8248
	Female	5211	2110	28	404	7753
	Adult	7321	6505	52	397	14275
Age	Young	1403	123	0	196	1722
	Adult					
	<1year	4	0	0	0	04
Total		8,728	6628	52	593	16001

TABLE II: Suspected diseases and conditions observed in animals slaughtered during the study

Disease/Condition	Cattle	Goats	Sheep	Pigs
Tuberculosis	53 (0.61%)	2 (0.03%)	0 (0.00%)	0 (0.00%)
Slaughtered Pregnant dams	82 (0.94%)	29 (0.44%)	0 (0.00%)	4 (0.67%)
Paramphistomosis	26 (0.3%)	25 (0.38%)	0 (0.00%)	0 (0.00%)
Slaughtered Dead Animals	20 (0.23%)	0 (0.00%)	0 (0.00%)	2 (0.34%)
Fascioliasis	88 (1.01 %)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Cysticercosis	5 (0.06%)	139 (2.1%)	0 (0.00%)	6 (1.01%)
Streptothricosis	8 (0.092%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Lumpy Skin Disease	3 (0.034%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Demodecosis	2 (0.02%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Dermatophilosis	2 (0.02%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Pyometra	1 (0.01%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Lung Abscess	3 (0.03%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Vaginal Prolapse	2 (0.02%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
CBPP	7 (0.08%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Ascariosis	0 (0.00%)	0 (0.00%)	0 (0.00%)	10 (1.69%)
Pimply gut	15 (0.17%)	74 (1.11%)	0 (0.00%)	0 (0.00%)

TABLE III: Abattoir workers' unwholesome practices

Abattoir workers unwholesome practices		Frequency of occurrence		
		Always	Almost always	Infrequent
1	Poor sanitary practices	a) Non provision of potable water in processing of meat		*
		b) Dirty killing floor	*	
		c) Urinating inside the slaughter slab drainages		*
		d) Eating with unwashed hands inside the slaughter slabs by the butchers and other meat processors		*
		e) Washing offals inside the drainage dirty water	*	
		f) Dragging freshly dressed carcasses on the dirty killing floor	*	
2	Adulteration of meat	a) Contact of meat with ruminal contents	*	
		b) Masking deteriorated meat with fresh blood		*
3	Lack of safety measures	a) Congestion of humans and cattle within slaughter slabs	*	
		b) Presence of children and food vendors in the slaughter slabs	*	
		c) Butchers processing meat with unprotected wounds		*
		d) Exposure to smoke during singeing	*	
		e) No protective wears used during slaughtering and processing of carcasses	*	
		f) No facilities for separating diseased animals from the healthy ones within the abattoir	*	
4	Environmental abuse	a) Defaecating on unsightly places around the abattoir	*	
		b) Clogging drainages with dungs and ruminal contents	*	
		c) Heaps of effluents with obnoxious odour sited very close to the slaughter slabs	*	
5	Sharp practices	a) Processing already dead carcasses of unknown causes		*
		b) Smuggling out of condemned meat from the abattoir to be sold to unsuspecting buyers	*	

KEY:

*: Frequency of occurrence

The results showed that more cattle (54.55%) were being slaughtered at the abattoir than the other food animals combined (Table I). This is similar to the work done by Onunkwo *et al.* (2003). The main reason that could be given for this is that more people consume meat from cattle than they do for goats, sheep and pigs.

The prevalence rate of fascioliasis in cattle observed in this study (1.01%) is lower when compared with the 3.18% obtained by Onunkwo *et al.* (2003) in Nigeria and the 2.63% - 3.20% by Ansari-Lari and Moazzeni (2006) in Iran. This could be due to the fact that this study was carried out just at the beginning of rainy season when lesser cases of fascioliasis are reported. It could also be due to routine treatment against fascioliasis being carried out from where the animals were sourced.

The prevalence rate of tuberculosis obtained in cattle (0.61%) is similar to those reported in other Nigerian abattoirs including the 0.40% by Du-Sai and Abdullahi (1993) and 0.69% by Akingbade (2002). It is, however, lower than the 5.00% reported in the same abattoir by Cadmus (2003) and the 7.3% reported in a Chadian abattoir (Diguimbaye-Djaibe *et al.* (2006). The difference in prevalence rates could not be unconnected with the non-cooperation and sharp practices by the butchers during this study.

The high percentage (2.10%) of cysticercosis in goats recorded in this study is of serious public health importance, giving the 0.06% - 3.5% of cases reported in humans by Faleke and Ogundipe (2003).

The observed unhygienic and sharp practices of the abattoir workers are of serious public health concern because they directly put the consumers at risk. Our findings suggest that the meat being sold out for public consumption is either diseased or exposed to several levels of contaminations which could endanger the public health. Hence, judging from the assertions of Alonge (2001) and Wilson (2005) on: i. the adequate use of potable water for cleaning of animals, implements; the killing floor, the slaughter person; ii. comprehensive ante-

mortem and post-mortem inspections; iii. rapid removal of carcass to lower temperature storage, it becomes obvious that most of the meat processed in this abattoir are unfit for human consumption.

Due to the high level of congestion and overcrowding of humans and animals within the slaughter slabs, there are high possibilities for spread of zoonotic and other communicable diseases like tuberculosis from infected animals to man and between humans. Children are also at risk of being infected with tuberculosis since the unwashed hands used by their mothers to handle tuberculous offals are also used to feed the babies within the slaughter slabs.

Most of the butchers are also directly exposed to different disease conditions as they use their bare hands to process infected carcasses, despite sustaining wounds on these hands. In addition, the exposed and contaminated hands are also used to hold cigarettes which they smoke right on the floor of the slabs. These soiled hands are also used to eat without proper washing, hence leading to the possibility of oral route of infection of some of the diseases encountered while processing the carcasses.

The un-hygienic and un-wholesome practice of urinating inside the drainages where some of the hidden infected products are kept by the butchers further increases the risk of selling the public infected and contaminated meat products. These, together with the general unsanitary environmental conditions of the abattoir therefore put the public in grave danger of consuming meat and meat products emanating from Bodija abattoir. It suffices to say therefore, that there is the need for proper education of the butchers and those involved in meat processing on the essential hygienic practices to be observed at the slaughter slabs. The study also underscores the importance of proper and thorough meat inspection to provide safe and wholesome meat to the public thereby minimizing the risk of disease transmission through meat consumption.

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