A Study on Processing Environment In Relation To Quality of Meat Sold in the Accra Metropolis

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ABSTRACT

The study was to assess the processing environment in relation to quality of meat being sold to consumers in the Accra Metropolis of the Greater Accra Region. Food safety is a matter of great public health concern worldwide. Most fresh foods particularly those of animal origin like beef and mutton are highly susceptible to microbial invasion and food poisoning. In poorly managed market environments, unhygienic practice is the major cause for food contamination. One factor which needs to be seriously considered when assessing the microbial quality of food is the environment within which processing takes place.A major challenge facing meat processors in Ghana on the international market is the inability of their products to meet international food quality and safety requirements. The study assessed the hygienic practices and microbiological meat safety standards of butchers, who specifically sold meat in the Accra Metropolis. Blood and tissue fluid samples were collected using sterilized cotton swab sticks, along the processing line, from three butcheries or market meat-shops at Nima, Kaneshie and James Town, and, one slaughterhouse at Amasaman (which was 'Set as the control). Likert-Scale structured questionnaires were used to collect data on the knowledge base and sanitation practices of 20 butchers. The simple random sampling and convenience sampling techniques were used to select the 20 butchers, five each from the four butcheries. Another set of respondents (consumers) numbering 15 were selected from the three communities, Nima, Kaneshie and James Town. They were also interviewed using the Likert-Scale questionnaire. The sanitary and hygiene conditions at processing sites were assessed guided by the Ghana Standard Code of practice for the processing of meat. Samples were analyzed for microbial loads using the plate culture technique and the *enterobactericeae* isolates were identified. The total viable counts of samples were found to be numerous, some fell above the maximum value of 250 cfu per 100ml. The THB *and E. coli* mean counts were generally high; with *Salmonella* and S. *aureus* recording low levels. The knowledge base in sanitation and food hygiene issues as observed among fresh meat processors was found to be generally low. This invariably contributed to the inadequate sanitary and hygiene facilities and their non-maintenance attitudes at most of the market meat-shops. This again, reflected in the manner in which fresh meat is handled by the processors. The poor status of most of the environment where fresh meat is processed formed another factor. The

proximities of public toilets, and sites for garbage disposal were observed to be less than the 30m recommended by World Health Organization. The attitudes of the users of these public facilities gave rise to fly breeding as a result of indiscriminate defecating and dumping of garbage; and the poor collection rate of accumulated wastes complicated these issues. Differences observed in the microbial population on fresh meat surfaces sampled, were mostly attributed to the poor levels of availability, adequacy, and maintenance of sanitary facilities at the various meat processing sites and the attitudes of processors. In addition, target market for the fresh meat affected some of the practices during the processing of meat. The meat industry was found to be dominated by men mostly from the northern parts of the country, who were within their reproductive age. The illiteracy level was found to be quite high among the processors; primary level graduates were 65% and those who have not attained even the basic school at all were 15%, totaling 80%. There was a clear reflection of this on the levels of human attitude, as regards good sanitation and hygiene practices at the various meat markets. Some of the conclusions and recommendations drawn from research findings include: generally, lack of sanitary and hygiene facilities; the culture of non-maintenance; beside poor personal hygiene attributes of butchers formed the constraints of the local (Accra Metropolitan Area) meat processing industry. Processing personnel are compelled to use not very clean public toilets; an obvious source of fecal contamination to the meat. Heaps of refuse, stray animals and choked drains, formed the scene at most market meat-shops and thus, promote fecal contamination of meat. The recommendations include; that stakeholders (Environmental Protection Agency, Metropolitan and District Assemblies, Food and Drugs Board, Ministry of Food and Agriculture, Ministry of Health, and Ministry of Local Government and Rural Development) work together in order to present a healthier and a larger supply base on the international market; stakeholders should collaborate to intensify efforts at ensuring that producers comply with good processing practices and regulations; the local meat industry with support from government should work towards providing appropriate cold-vans (mobile-cold store) for safe transportation, and distribution of processed meat; the local authorities should try privatization of the industry; while they intensify the role of supervision; the youth should be encouraged to have formal education in order to enable them appreciate sanitation and food hygiene issues; the Accra Metropolitan Authorities and other Local Government Authorities in control of cities and urban towns, where illegal slaughter-slabs exist and are operated should develop strategies that would reconstruct and well organize these unfortunate operations; reconstruction of existing slaughter-slabs into

modem abattoirs would create more jobs for the youth in the meat industry instead of trying to stop them entirely.

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