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Evaluation of Common Beliefs and Practices Of Slaughterhouse Butchers At The Tamale Metropolis- Ghana

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Abstract

Meat quality and butcher's awareness play a key role in the production of hygienic meat and in preserving public health. A structured questionnaire was developed and a total of 150 butchers were surveyed in the pilot study. The aim was to evaluate the common beliefs and practices of the slaughterhouse butchers. The survey revealed that 54.5% of the butchers in a family business do not require formal training and have No need for registration to work as a butcher. And about 62.6 % use local implements to slaughter animals. About 58.8 % have knowledge of protective materials during operation, however, 53.8% practice skinning of animals with local knives and bare hands. Based on the results obtained in the study, it is concluded that most of the butchers required education and awareness training about hygienic meat production, meat-borne diseases, sanitary conditions, and hygienic slaughter techniques in the butcher house to safeguard their health and meat consumers.

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INTRODUCTION

An abattoir is a place where the knowledge and training of the meat handlers is of mighty importance to ensure the safety of food and public health. Meat handlers play an important role in safeguarding the chain of production, processing, storage, and preparation (Abd-Elaleem et al., 2014). Mishandling and lack of knowledge of the production chain lead to outbreaks of food-borne illness thus costing lives. Personal hygiene of butchers also plays an important role in preventing the entry of food-borne pathogens (Fawzi et al., 2009). In developing countries like India, consumption of meat is gradually increasing as a result of increasing population, urbanization, and rising income (Sans et al., 2015). A lack of awareness and the conventional practices followed in processing, handling, and marketing reflect the poor-quality meat. Poor meat hygiene and sanitation may lead to the risk of foodborne illness upon consumption (Gurmu et al., 2013). Several factors like poor food handling, inappropriate food safety laws, poor regulatory systems, and lack of awareness among butchers and consumers are some of the other factors that degrade the meat quality in developing countries (Guo et al., 2017).

Practices in slaughterhouses in West Africa are not different from other developing countries. Appropriate slaughter is a requirement in all categories of slaughterhouses. Slaughtering processes are in stages which consist of ante-mortem inspection of live animals, stunning, bleeding, flaying, evisceration, post-mortem inspection, washing, and grading of the carcasses. In local abattoirs, carcasses are sold to patrons at the marketing hall close to the slaughterhouse, but in the export abattoirs, carcasses are frozen for 12 hours before processing begins thus adding value by making specific cuts and products. Contamination can take effect in all stages of slaughter. The main reason for slaughter is to professionally take away the skin/hide and viscera in a manner that will avert contamination of the carcass with the hide or gastrointestinal contents. The hygiene of the operatives and equipment used is essential to the accomplishment of process hygiene (Lawan et al., 2013).

This study aimed to evaluate the common beliefs and practices of slaughterhouse butchers.

The study will contribute to knowledge, especially in the dimension of Public Health. It will also provide the foundation for proper and strict implementation of Ghana's occupational health and safety laws and guidelines at the Tamale Metro slaughterhouse.

The findings of this research will provide a source for informed decisions for government organizations and departments responsible for formulating health and sanitary policies on Ghana's abattoirs and meat handling regulations. The research will also serve as a base for further research and study into the general sanitary conditions in Ghana's abattoirs.

Finally, it will bring to bear the awareness that is required to ensure the much-needed corrective actions and commitment towards ensuring appropriate operations of abattoirs.

MATERIALS AND METHODS

Study Design

A cross-sectional study design based on the questionnaire and a brief interview was done to assess the knowledge of the butchers on the Common beliefs and practices of the slaughterhouse butchers during meat handling, their source of knowledge in managing the slaughterhouse, and their awareness regarding the Materials used.

Study Area

The present study was conducted in the Tamale Metropolis of Ghana in 2019. The assessed butchers are of various ages, educational qualifications, and experience.

Sampling Method & Size

Butchers to be interviewed were selected using simple random sampling and were assessed by the personal interviewer by visiting their slaughterhouse. The respondents were not compelled to participate in the interview. Before proceeding with the questionnaire, the principle of the study and the methodology were explained lucidly along with the consent from the respective butcher. A total of 132 butchers were interviewed.

Study Methodology

The assessment included a brief interview and questionnaire. A semi-structured questionnaire was prepared and used for face-to-face interviews to evaluate the awareness among butchers. The interview was conducted in vernacular and English Language.

The questionnaire included the details of the butcher's educational status, Butchery is a family business and does not require any formal training, No need for registration to work as a butcher, use local implements in the slaughter of animals, Wear protective clothing during operation, and Skinning animals with local knife and bare hands

Table 1: Variable Definition in the Study

Variable name	**Definition in study**	**Variable type**
Butchery is a family business and no need for any training on meat handling.	Respondents reported opinions on training on no need for meat handling (Yes, No)	Categorical
Skinning with local knives and bare hands	The self-reported practice of the use of local knives and bare hands for skinning animals (Yes, No)	Categorical
No need for registration to work as a butcher	Self-reported response on no need for regulatory registration to work as a butcher (Yes, No)	Categorical
Skinning with local knives and bare hands	The self-reported practice of the use of local knives and bare hands for skinning animals (Yes, No)	Categorical

Table 2: Common Beliefs and Practices of The Slaughterhouse Butchers

Common Belief/Practice	Number	Percent (%)
Butchery is a family business and does not require any formal training		
Yes	72	54.5
No	60	45.5
No need for registration to work as a butcher	51	38.9
Yes		
No	80	61.1
Use of local implements in the slaughter of animal		
Yes	82	62.6
No	49	37.4
Wearing protective wear during the operation	77	58.8
Yes		
No	54	41.2
Skinning animals with a local knife and bare hands	71	53.8
Yes		
No	61	46.2

Source: Field survey, 2019

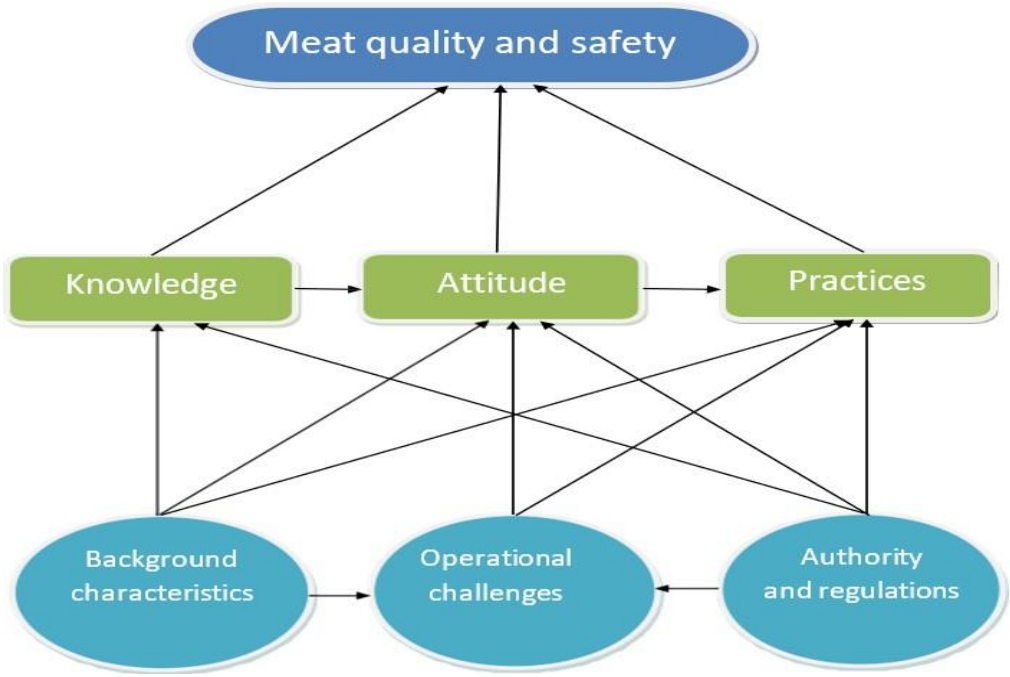


Figure 1: Conceptual framework

DISCUSSION

The present study has shown that butchers were not quite aware of Government rules and regulations in the operation of slaughterhouses. About (38.9%) of the slaughterhouse workers believed that butchery does not need registration and regulation from any authority. This is contrary to the worldwide standard operation requirement of mandatory inspection of the level of hygiene and sanitation before, during, and after the meat production process to help reduce contamination of carcasses produced (FAO). This wrong belief by the slaughterhouse workers could as well be due to their low level of meat handling hygiene and cross-contamination knowledge as revealed by the findings of this study.

This is because knowledge influences belief and attitude to a very large extent. Registration and regulation of operations of butchers at the abattoir with regards to meat handling safety will be relevant in the effort against foodborne illness related to meat as it will help ensure compliance with hygiene and sanitation standards by the slaughterhouse workers.

Another common belief among the slaughterhouse workers was that they believed that butchery is a family job that one learns by following and observing the master who mostly is a family member and that it does not require any formal training. This is also contrary to

The recommendation by Gould (1994) is that all meat handlers must participate in a training program of a kind, particularly in the areas of personal hygiene, good manufacturing practice, cleaning, and disinfection procedures before starting to work in a slaughterhouse as a butcher.

These beliefs could account for the low level of meat handling personal hygiene and cross-contamination knowledge of the slaughterhouse workers as revealed by this study which can impact negatively on their hygiene and sanitation practices which have also been found to be below recommended standard practices in this study. These wrong beliefs reiterate the need for the butchers to be trained and oriented to increase awareness of their standard operation procedures.

The study also assessed some common practices of the slaughterhouse workers and found that a large proportion of the butchers, (53.3%) work with locally made implements or equipment with bare hands. The use of bare hands and knives for skinning can similarly host contaminating organisms on the surface of the carcass (Reij et al., 2003). More than half,

58.8 percent of the slaughterhouse worker said they wear protective clothing as part of their work culture. Contrary to this study's finding, Chepkemoi et al., (2015), found that 70% and 82% of slaughterhouse workers in Nairobi and Isiolo Countries, respectively do not dress in protective clothing in the course of the daily operations at the abattoir. This is a good practice that can help reduce contamination of meat as protective clothing is said to limit contamination from workers' bodies (Restino & Wind, 1990; Kasprowiak & Hechelmann, 1992). It was further discovered in this study that butchers use customized local knives and do not sterilize them for reuse. Knifes used to slaughter each animal were not washed and rinsed in hot water as recommended. It is recognized that a contaminated knife can pass on bacteria into the animal tissues during the early stages of bleeding that is when the heart is still beating (Reij et al., 2003).

CONCLUSION

Butchers' level of awareness was very low regarding hygienic meat production, personal hygiene, and the diseases associated with meat. This study clearly describes the low perception levels of the butchers, their poor awareness toward adhering to rules and regular protocols of slaughterhouses is a problem for healthy meat. The present study concluded that improving the knowledge of the butchers through various channels like

Advertisements, seminars, presentations by some veterinary and medical health professionals, and measures from government public health departments can provide a pavement for the production of clean meat and protect the health of consumers.

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