CONSUMER VIEWS OF BUSHMEAT CONSUMPTION IN TWO GHANAIAN MARKETS

Florence S. Kuukyi, Richard Amfo-Otub*, Edward Wiafe

a Ga South Municipal Assembly, Public Health Department, PMB.2,Weija-Accra, Ghana.

b Presbyterian University College Ghana, Akuapem Campus, Department of Environmental and Natural Resources Management, P.O. Box 393, Akropong-Akuapem.

c Presbyterian University College Ghana, Akuapem Campus, Department of Environmental and Natural Resources Management, P.O. Box 393, Akropong-Akuapem.

* Corresponding Author: richard.amfo-otu@presbyuniversity.edu.gh

Article received on April 22, 2014    Accepted on October 7, 2014

ABSTRACT

Consumption of bush meat is suspected to be a major route of transmission of various diseases from animals especially wildlife to humans. Specifically the study sought to assess the perception of consumers of bush meat on the potential of transmitting zoonotic diseases to humans. Agbogboloshi and Mankesim market centres were the study areas. Closed and open ended questionnaires were used to gather information from 100 respondents made up of hunters, traders and consumers. It was observed that 29% of respondents preferred bushmeat to domestic meat, 51% preferred neither domestic meat nor bush meat whilst 20% of them preferred domestic meat to bush meat. The common bush meat consumers patronised were grass cutter (73%), giant rat (17%) and monkey (8%). Fifty four per cent (54%) were aware of possibility of transmitting zoonotic diseases through consumption of bush meat, 33% were not aware; those who were aware gave Ebola (48%) and anthrax (16%) as examples of zoonotic diseases. Forty four per cent (45%) of them had received information on transmission of zoonotic diseases from bush meat to humans from radio and 33% had never heard it before from any source. A critical laboratory examination of the part of bush meat that has the potential to transmit zoonotic disease is recommended for future studies.

Key Words: Bush meat, Perception, Consumers, Zoonotic diseases, Health Belief Model, Ghana

1. INTRODUCTION

Bush meat, a term used for wild meat, is considered a delicacy in many African countries and has resulted in its growth as a commercial enterprise. Although the hunting and trading of wild animals for meat is a worldwide phenomenon, little attention has been paid to problems associated with consuming of this commodity (Brashares et al., 2004). Zoonoses, diseases originating from animals, which are associated with hunting and eating of wildlife, have become major issue of global concern. Daszak and Epstein (2007) are of the view that tracking, capturing, handling, butchering in the field, especially hunting of non-human species and transporting of carcasses involve the risks of cross-species transmission of diseases.

Woolhouse & Gowtage-Sequeria (2005) stated that approximately 60% of emerging infectious diseases among humans are zoonotic, of which 72% originate from wildlife. For example anthrax, ebola, hendra, HIV/AIDS and monkey pox, as well as nipah, rabies, severe acute respiratory syndrome (SARS), simian foamy virus and West Nile virus are classified as zoonotic diseases (Bennett & Rao, 2002). Peeters et al. (2002) have observed that, the handling of freshly butchered bush meat, in particular, brings about a risk
of transmission of new zoonosis because pathogens that do not cause diseases in their natural hosts can do so in their new hosts, or evolve to do so. This is believed to be the case for Simian Immunodeficiency Virus (SIV) and Human Immunodeficiency Virus (HIV).

Although bush meat hunting is not new, the emergence of activities such as logging, mining and bushfires, can increase the likelihood of human-wildlife contact and consumption. Peeters et al. (2002) further explained that different types of disease vary in their contagiousness. This is true for SIV which are relatively non-contagious as they are only transferred through body fluids such as blood from a fresh carcass. However, the risk of transmission of diseases which can be passed through the skin such as anthrax is higher and that of highly infectious airborne viruses such as influenza is greater still (Mores, 1993). Despite increased research attention to the commodity chain in relation to bush meat (Bowen-Jones, Brown & Robinson, 2003; Cowlishaw, Mendelson, & Rowcliffe, 2005), it is often unclear how each different group of actors perceive bush meat trade, consumption and its effects on public health.

Mores (1993) stated that three-fourths (3/4) of human emerging infectious diseases are caused by zoonotic pathogens. The emergence of various diseases in the world without clear-cut etiologies is very worrying to public health professionals. There is a research gap with respect to our knowledge of public perception about the potential of bush meat consumption to transmit diseases. Therefore, assessing the perception of actors in bush meat trading chain about the risk that bush meat consumption poses to public health is worth pursuing. The goal of this study is to assess the consumer perception of the potential of bush meat to transmit zoonotic diseases to humans through consumption of such meat. The objectives include identifying bush meat preference among consumers; most frequently consumed bush meat on the market, perceived potential of bush meat to transmit diseases and sources of information to consumers.

Theoretical framework of the study

The study was underpinned by the Health Belief Model (HBM) (Hochbaum, 1958; Rosenstock 1966; Becker, 1974; Morris, Marzano, Dandy & O’Brien, 2012) which states that people will engage in preventive behaviour once they feel vulnerable to a health condition which threatens their life if they have a belief that the condition has a high level of consequence for their health and if they perceive that the costs of engaging in preventive behaviour is more than the benefits. The model takes into account a person’s perceived capacity to accept and maintain a required behaviour as argued by Bandura (1989) in Social Cognitive Theory as self-efficacy. Also, the HBM identifies two types of ‘cue to action’: internal, which in the health context includes symptoms of ill health, and external, which includes all forms of campaigns or the receipt of other information (Morris et al., 2012). These cues influence the perception of threat that a particular condition poses to the person and can therefore lead to a change in or maintain behaviour.

This work looks only at how this theory applies to the behaviour of bush meat consumers in relation to their perception of contracting zoonotic diseases. Consumers with perception of susceptibility to zoonotic disease from bush meat consumption are likely to reduce or stop eating bush meat. It is expected that people who have “cues to action” information on the possibilities of contracting zoonotic diseases from consumption of bush meat will be ready to change their consumption of bush meat or their processing methods that makes them feel vulnerable. The benefits obtained from bush meat such as nutritional value, cost, taste and cultural inclination can make people who feel vulnerable to continue consuming bush meat.
2. METHODOLOGY

Study area

Agbogbloshie market is one of the largest market in Accra for all sorts of commodities such as food staffs, scrap metals, e-waste etc. The market covers approximately four acres and is situated on the banks of the Korle Lagoon, northwest of Accra's Central Business District. Agbogbloshie extends from latitudes 5°33′00″N and longitude 0°12′00″W, serves as the central hub for most food products from all part of the country. Mankesim as the capital of Mfantseman Municipality is located along the Atlantic coastline of the Central Region. The town extends from latitudes 5° T to 5° 20’ North of the Equator and longitudes 0° 44’ to 1° 11’ West of the Greenwich Meridian, stretching for about 21 km along the coastline and for about 13 km inland and constituting an area of 612 square kilometres. This is one of the most vibrant markets in the region with high patronage from people from all walks of life. Grass cutter marketing can be identified at the market and even along the road of the main Accra - Cape Coast road with high patronage by road users. The people here are petty traders, fisher folk, substance farmers and hunters (Ntiamoa-Baidu, 1997).

Research Design and Interviews

The research design adopted for the study was the descriptive study design. In all about 100 bush meat consumers were sampled accidentally for the study. Interview schedule was conducted using structured questionnaires which were administered respondents after obtaining their consent. In all 50 respondents were interviewed in each market to gather information on their perception about bush meat. At Mankesim there were 10 hunters, 15 customers and 25 traders were selected all at Agbogbloshie, 35 traders and 15 customers were selected since there were no hunters. The data collection took about 35 minutes to complete one respondents’ questionnaire. Information on socio-economic status were gathered, opinion on whether bush meat can transmit diseases to man and factors that facilitate disease transmission as well as methods of hunting.

3. RESULTS AND DISCUSSIONS

Demography of the Respondents

In all, a total of 100 bush meat consumers responded to the questionnaire in both Mankesim and Agbobloshie bush meat market centres of which 17% were hunters, 24% were traders and 59% were consumers or patronisers of bush meat. Among the respondents, 52% were males while 48% were females which imply that both males and females were involved in the chain of the bush meat commodity market. The active group who were in the bush meat market were the youth with the age ranging between 16-35yrs representing 58%, followed by the young adults group also ranging between 36-60yrs representing 33% and 9% adults above 60 years. Deducing from the information so far it shows that the youth are more in the business than the adults. The consumers of the bush meat were from all the social classes with varying educational background from basic to tertiary education as 24% of them had basic education, 25% with secondary and vocational and 51% with tertiary education. In all, about 24% of the respondents were bush meat traders, 10% were hunters whiles the remaining 66% were from other occupational backgrounds and they were main customers patronising the bush meat stands.

Types of Bush meat preferred by respondents

The result indicated that 29% of the interviewees preferred bush meat to domestic meat, 51% neither preferred bush meat nor domestic meat whilst 20% were found to preferred meat from domestic animals to bush meat. The main species commonly obtained from the market by the consumers were grass cutter (73%), monkeys (8%), giant rat (17%) and antelope (2%) as in Figure 1. The findings of this study therefore supports the finding that, the most commonly consumed species are small animals such as grass
cutter, monkey and duiker (Asibey, 1974). Most bush meat is smoked to prevent the meat from going bad or rotten as one of the major preservation method. Fresh bush meat which is not usually sold out early and is seen to be going bad is sting to remove the fur then put on mild fire to smoke or preserve from going bad. Moreover some consumers preferred the smoked bush meat for its peculiar aroma. The opinion of the respondents on preservation by smoking is in support of the findings that when bush meat are smoked it can be stored for a long period or once smoked it can be stored without expensive refrigeration (Brown & Williams, 2003).

![Figure 1: Type of bush meat species that are commonly found at the markets](image)

**Reasons for Consumers Preference of Bush Meat to Domestic Meat**

In the quest to know why consumers prefer certain type of meat to others, 43% of respondents said bush meat is low in fat therefore very good for human consumption as in Figure 2. The findings of this study is in conformity with other studies that the nutritional composition of bush meat species suggests that these provide an equivalent or even greater quality of food than domestic meats with less fat and more protein (Koppert et al., 1996). About 10% of the respondents mentioned that bush meat is very easy to come by or to access than domestic animal meat, 20% indicated bush meat is much delicious as compared to domestic animal meat, 15% of respondents commented that the nutritional value of bush meat was higher than domestic animal meat, where as 12% of the remaining interviewees said bush meat was cheap as compared to domestic animal meat hence their preference for bush meat than domestic animal meat. The finding that bush meats are relatively cheaper than domestic meats is confirmed by other researchers that the price of bush meat per kilo was 0.10- 0.25 times higher than the price of available substitutes in three markets in Cameroon, Congo and the Central African Republic (CAR) (Gally & Jeanmart, 1996). It also confirms the findings at Buyanga and Ngotto all in CAR, where beef, goat and chicken prices were found to be 2-3 times higher than the price of bush meat (Delvingt, 1997; Noss, 1998).
Consumers perception on the risk of contracting zoonotic diseases from Bush meat

From this study, about 54% of the respondent mentioned that they are aware that they can contract zoonotic disease when they consume bush meat, 33% said they were not aware that they could contract disease through the consumption bush meat, while 13% commented that they do not know either they can contract disease or not through the consumption of bush meat. This implies that majority of the bush meat consumers are aware of the likelihood of acquiring zoonotic disease from the bush meat.

On their sources of information for the bases of their perception as shown in Figure 3, 20% of the respondents indicated they heard it from friends and family members, 45% also heard it from radio, 33% has never heard of any kind of disease that bush meat can transmit while 2% claimed they cannot remember either they have ever heard it or not. Among those who have heard of the zoonotic diseases, 48% mentioned ebola, 16% mentioned anthrax while 36% could not mention any name of a zoonotic disease. This implies that radio is an important source of information to the general public on food safety issues. It also means that types of zoonotic diseases likely to acquire from consumption of bush meat is not widely discussed by stakeholders.

Figure 2: Consumers reasons for preferring bush meat to domestic meat

Figure 3: Source of information on Transmission of Zoonotic Diseases from Bush Meat
Furthermore, 2% of the interviewees said smoked bush meat could transmit disease, 46% said fresh bush meat is likely to transmit disease, whilst 28% said both state could transmit diseases and 24% said they do not know the state that bush meat would be in the position of transmitting disease. On the part of the animal that is more prone to transmit diseases, 92% of the respondent said eating the offal’s of any bush meat could result in diseases transmission and 8% said they can’t tell which part of the bushmeat that can transmit diseases. But at end on an observation it has been seen that the offal’s of the wildlife has a possibility of transmitting zoonotic diseases due to their nature of feeding. On the possibility of bush meat processing procedure facilitating disease transmission and meat contamination with zoonoses, 11% said during skinning bushmeat could be contaminated, 9% said by using hot water de-hiding could also lead to contamination. Furthermore, 72% said fire singeing process was more likely to lead to contamination due to the materials or fuel types used in the singeing process, whilst 8% said they have no idea as to which kind of processing could lead to disease transmission. Environmental Health Unit of Ghana Health According to the respondents, the preservation method that could lead to contamination or disease transmission include salting (53%) and steaming (37%) where as 10% said smoking but none of them mentioned freezing as a possibility as shown in Figure 4. According to the Netherland’s Nutrition and Food Research Institute (2010), the following preservation methods were recommended; salting, drying, smoking and fermentation as against freezing because according to them freezing is an expensive method of preserving meat which is also not accessible to all, however the rest of the preservation methods are inexpensive and need no skills to implement.

![Figure 4: Bush Meat Preservation Method that can contaminate the Meat](image)

In the quest to understand if respondents will continue to consume bush meat after being part of this study, 49% said though they have some knowledge on the risk of contracting diseases from bushmeat consumption, it is something they cannot stop eating it, where as 51% said they were going to try their best to avoid bush meat consumption. Even though these respondents have information on the risk the face yet they find it difficult to stop consuming bush meat. This can therefore suggest that bush meat consumption is more cultural than the quest for protein.
4. CONCLUSION

Bush meat consumption is important for people to meet their nutritional needs. Consumers of different social class patronise bush meat market for different species of wildlife meat. The order of bush meat preferred by consumers in the study is grass cutter, giant rat, monkeys and antelope respectively. This is important for farmers who are into grass cutter production to increase their production rate because consumers are readily available. The consumers are informed of the possibility of contracting different diseases from the consumption of bush meat yet some were not ready to stop it consumption. Radio and family and friends are the sources of information on possibility of bush meat to transmit zoonotic diseases to consumers. These sources of information can be used as the route for undertaken public health education and awareness creation on food safety. This is important for public health education and policy development to consider the critical factors that can influence consumer behaviour toward consumption of bush meat. This is a good case to test the construct of HBM in subsequent study using bush meat consumers as a case. Future studies using health believe model to predict behaviour outcomes can test the nutritional value, cost, taste and cultural inclination variables as the benefits and how they influence behaviour of bush meat consumers. Respondents perceived the most likely part of bush meat to transmit diseases is the offal. This means people who consume offal of bush meat should prepare it well to avoid contracting possible zoonotic diseases. A critical laboratory examination of the part of bush meat that has the potential to transmit zoonotic disease is recommended for future studies.

Acknowledgements

Our big gratitude goes to the bush meat traders, hunters and consumers who agreed to participate in the study. Also all our loved ones are deeply appreciated.

Reference


