Study on Meat Associated Health Hazards among Butchers and Meat Retailers

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ABSTRACT

Data were collected through questionnaire and direct observation on randomly selected 20 butchers from large animal slaughterhouse (LAS), 10 butchers from small animal slaughterhouse (SAS) and 30 meat retailers from Bareilly district of Uttar Pradesh. The data thus generated were analyzed by frequency and percentage analysis. It was found that among various modes of transmission, maximum awareness in the butchers in LAS, SAS and meat retailers was about the contact with infected persons. Butchers and meat retailers were aware of zoonotic diseases like bird flu, rabies, tuberculosis, fascioliosis, tetanus and anthrax but they had poor knowledge about transfer of certain diseases by animal/meat handling. There was comparatively less awareness about diseases like taeniasis/ cysticercosis, salmonellosis, brucellosis and leptospirosis. Butchers gave more importance to physical fitness in order to continue their ability for meat production operations than to disease transmission. Meat handlers lacked knowledge about various ailments encountered in animals or carcasses and condemnation of diseased organs. Thus inspection by veterinarians is a must to secure production of safe and suitable meat.

Keywords: Awareness, butcher, meat retailers, slaughterhouse, zoonotic disease

Introduction

Meat is an important source of protein and a valuable commodity to resource poor communities. Butchers are important link in the meat production and processing chain at slaughter houses. There are two types of slaughterhouses operating in the country, organized and unorganized. India has 3600 registered slaughter houses under local bodies, yet most of them are highly ill managed, unhygienic and overcrowded (Padd and Thind, 2002). The infrastructure facilities for hygienic slaughter and processing of meat are not adequate to meet the minimum standards of hygiene (Das et al., 2006). The condition of the butchers is also miserable and people, who eat meat from these slaughter houses, have chances of getting infected. Chaubey et al. (2004) investigated microbiological quality of 40 samples of raw goat meat, which were sold in Bikaner, India, and reported poor microbial quality of samples. The present study was conducted to observe the awareness regarding meat associated zoonotic diseases among butchers of slaughterhouses and meat retailers.

Material and Methods

Twenty butchers from the large animal slaughterhouse (LAS) and 10 butchers from small animal slaughterhouse (SAS) of Bareilly district were selected randomly to study their awareness regarding meat hygiene and associated health hazards. There were 38 retail pork shops, 24 retail buffalo offal meat shops and 87 retail mutton shops in Bareilly city during the period of study. Thus according to the plan of the study, six meat markets situated at Shahid Dwar, Quila, Azam Nagar, Queresh Nagar, meat market behind Kumar
Talkies and Sailani were selected and from each market five shops were randomly chosen for collecting data. From each randomly selected retail meat shops one person was selected purposefully who was actively involved in animal slaughtering and sale of meat at the retail shop to make a sample size of 30 retailers. The awareness among butchers and retailers regarding endogenous animal diseases transmissible to man and exogenous disease transmitted through meat was studied through direct observation and questionnaire method. The awareness was judged through their responses to various questions, specially chosen to assess the same.

Results and Discussions

Awareness about different modes of transfer of diseases

Communicable diseases can spread through various modes and an awareness of such modes is prerequisite to contain the spread of such diseases. The study revealed that majority of the butchers i.e. 85% of butchers in LAS, 50% of butchers in SAS and cent per cent of meat retailers considered contact with infected person as the important mode of disease transmission, while meat handling as a mode of disease transmission was known to 30% of butchers in LAS, 70% of butchers in SAS and 80% of meat retailers. Only, 30% of butchers of both LAS and SAS and 33.33% of meat retailers considered meat consumption as likely source of disease transmission.

Awareness about animal diseases of zoonotic significance

Zoonotic diseases constitute unique group of infectious diseases that affect human being as well as animals. The Joint Expert Committee of WHO and FAO (1959) have defined zoonoses as those diseases and infections which are naturally transmitted between vertebrate animals and man. Bird flu and rabies were known to 90% of butchers in LAS and cent per cent of butchers in SAS and meat retailers, whereas tuberculosis was known to 80% of butchers in both LAS and SAS and cent per cent of meat retailers. The awareness of butchers among LAS about different zoonotic diseases was fascioliosis - 80%, tetanus - 70% and anthrax - 80%, whereas among SAS butures it was fascioliosis - 100%, tetanus - 80% and anthrax -70%. Again, among meat retailers, it was fascioliosis - 90%, tetanus - 83.33% and anthrax - 80%. Further, it was also found that taeniasis/cysticercosis, salmonellosis, brucellosis and leptospirosis were some diseases with comparatively less awareness among butchers and meat retailers.

Awareness about transfer of certain diseases by animal/meat handling

Meat handlers constitute a unique group of individual with immense public health significance because they can not only contract the disease from animals/meat but also transmit it through improper handling of meat. It was observed that a significant proportion (61.67%) were aware that bird flu could be transmitted through handling of infected birds. The meat handlers were aware about certain disease like tetanus (20%), tuberculosis (20%) and anthrax (11.67%), which are transmitted through animal/meat handling. Otupiri et al. (2002) carried out a study to explore the nature of the knowledge, attitude and practice of butchers who operate at Kumasi slaughterhouse in Ghana, in relation to zoonoses and observed that the knowledge, attitudes, practices and beliefs of the butchers are largely inadequate for their profession in view of the important public health role that butchers play.

Opinion on continuation of meat production operation after encountering certain disorders/diseases

People known, or suspected, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through meat, should not be allowed to carry on meat production operations (CAC/RCP 58-2005). Cent per cent of butchers of both LAS and SAS considered jaundice and leprosy to be diseases in which one should not work. The opinion of the butchers in LAS about some disease or symptoms of disease with which one can work are discharge from eye, ear or nasal
tonsillitis (100%), eczema (80%), conjunctivitis (75%) and diarrhoea (60%) whereas in SAS, it was discharge from eye, ear or nose (100%), tonsillitis (100%), eczema (70%), diarrhoea (70%) and conjunctivitis (60%). Again in meat retailers, it was found to be discharge from eye, ear or nose (83.33%), tonsillitis (100%), eczema (60%), diarrhoea (66.67%) and conjunctivitis (60%). It can also be concluded that physical fitness to continue meat production operations were given more importance by butchers than disease transmission while soliciting their opinion. Abdel Hameed et al. (2002) investigated an abattoir in El-Sayeda Zeinab in Cairo, Egypt and concluded that abattoirs can be sources of pathogenic bacteria, indicating the importance of strict hygiene controls and the presence of a buffer zone between the abattoirs and residential areas.

Opinion about various ailments encountered in animals or carcasses

Animals to be slaughtered are not always free from disease. Provision of ante-mortem and post-mortem inspection confirms that the meat passed for human consumption is safe and suitable. Partially condemned meat relates to the conditions of the carcass which are not severe. These are mostly non-infectious or mild infectious. Non-infectious conditions include fractures, bruises, non-suppurative wounds, localised burns, haematoma, etc. Infectious condition includes abscess, suppurative wound and local hydatid cyst which require detailed laboratory examination. Such meat can be passed for consumption after trimming/removing affected portions. Carcass of animal along with its blood and offal is said to be unsound or condemned totally when affected with the following conditions viz., anthrax, black quarter, tetanus, tuberculosis, salmonellosis, fowl typhoid, FMD, blue tongue, rabies, generalised cysticercosis, sarcocystis, multiple hydatid cyst, emaciation, malignant or multiple tumors, abnormal odour, etc.

The study shows that, in cases like fracture (43.33%), wounds (50%), emaciation (70%), fever (96.67%), jaundice (83.33%) and abnormal odour from carcass (100%), the meat handlers forwarded right opinion. But it was also noted that in case of fracture (56.67%), wounds (50%), emaciation (30%), fever (3.33%) and jaundice (16.67%), meat handlers gave wrong opinion. This finding indicates that lapses exist between meat handlers' decision and the scientifically correct decision. Thus it should be ensured that the final decision about the fitness of the carcass and offals must rest only with the veterinarian.

Opinion about condemnation of various diseased organs

During dressing and further examination of the carcass and offals, a number of lesions suggestive of different diseases are encountered. A decision can be taken to either trim the affected part or condemn whole organ as per scientific norm. The study reflects that cyst on liver (73.33%), tumors on liver (96.67%), parasite inside liver (100%), septic or gangrenous condition of lung (100%), nodules on lung (80%), cyst on lung (71.67%), fluid in plural cavity (63.33%), swelling and oedema of lymph node (78.33%), tumour of lymph node (81.67%), enlarged spleen (98.33%) and pus in kidney (76.67%) were the conditions wherein correct judgement was made by majority of respondents. But it was also noted that in case of cyst on liver (26.67%), tumors on liver (3.33%), nodules on lung (20%), cyst on lung (28.33%), fluid in plural cavity (36.67%), swelling and oedema of lymph node (21.67%), tumor of lymph node (18.33%), enlarged spleen (1.67%) and pus in kidney (23.33%), few meat handlers gave wrong opinions. Thus inspection by veterinarians is a must to secure production of safe and suitable meat for human consumption.

Occupational injury encountered by butchers and retailers

Butchers and retailers were subjected to many occupational injuries owing to nature of their job and poor infrastructure. They frequently used sharp instruments viz., knives, axes, etc. The study provides an idea about the occupational injury
encountered by butchers and meat retailers of the study area in last one year. It was clear from the study that LAS butchers were most prone to injuries. Trauma by knife cut (30%) was most common, followed by sprains and bruises among LAS butchers. It was also found that SAS butchers (10%) and meat retailers (20%) suffered only from trauma by knife cut.

The study revealed that the meat handler in large animal slaughterhouse, small animal slaughterhouse as well as meat retailer were unaware regarding many important aspects of meat associated zoonotic diseases. There is a pressing need of imparting them necessary training to improve their awareness. People who come into contact with meat in the course of their work should be aware of and comply with reporting requirements. They are the most vital link involved in meat production and processing chain and thus any improvement in awareness will result in decrease in meat associated diseases.

References


