

A cross-sectional study on the awareness and hygienic practices among the poultry butchers in urban Bengaluru

Jagadish S Devaru, Anil Raju, Puttaswamy M

Department of Community Medicine, Dr. B.R. Ambedkar Medical College, Bengaluru, Karnataka, India

Correspondence to: Jagadish S Devaru, E-mail: jaggudevaru@yahoo.com

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ABSTRACT

Background: Poultry and poultry butcher shops are an important source of many food-borne diseases in man. As the consumers are at risk of various health problems, the butchers are also at risk of various occupational hazards due to substandard facilities and unhygienic practices. **Objectives:** This study was conducted to know the awareness and hygienic practices among the poultry butchers and to assess the knowledge about occupational hazards among them. **Materials and Methods:** This is a descriptive, quantitative and cross-sectional study conducted for 5 months in ward number 32 of urban Bengaluru. There were 52 poultry butcher shops in this area, and the butchers working in these shops were included in the study. A personal face to face interview was conducted using a preformed questionnaire after obtaining oral consent. Data were analyzed using Microsoft Excel. **Results:** Of the total 52 shops included for the study, 58% of the shops had a valid license for slaughtering. 25% of butchers were illiterates, and 98% had not undergone any sort of formal training for butchering. Butchers experienced for >5 years were 65%. Awareness regarding health hazards occurring due to consumption of contaminated meat was observed among 29%. Cleanliness of setting (98%) and equipment's (83%) were the most important factors to maintain meat hygiene according to the butchers. Protective equipment's usage was poor with no aprons, gloves, and gumboots in 46%, 98%, and 92% of the butchers, respectively. **Conclusion:** Hygienic practices and its awareness among the poultry butchers were very poor. Majority of the butchers were unaware of the occupational hazards among them. Regular monitoring of the shops and formal training for the butchers are needed to improve the hygienic levels and also to bring down the diseases caused due to consumption of contaminated meat.


KEY WORDS: Poultry; Butchers; Hygienic Practices; Bengaluru Urban

INTRODUCTION

World meat consumption is expected to reach 36.3 kg in retail weight by 2023, compared to 33.9 kg in 2013 where poultry has increased the consumption by 72%. Population growth, increase in the average income, chicken prices compared with other meats and diet preferences are

the major factors influencing the increase in poultry consumption. Global poultry meat uptake per person is projected to increase from 13.2 kg in 2013 to 14.9 kg in 2023.^[1] Globally, India is the third largest broiler chicken producing nation with estimates of 3 million tons/year.^[2]

With rapid increasing growth in meat production and consumption, hygiene aspects become a major area of concern. During, poultry slaughtering, processing, storage, handling, and preparation, there is a risk of human exposure to pathogens originating from these phases. A significant number of human food poisoning cases are because of raw poultry products. Most of the micro floras of processed meat are part of live poultry, and the reason for this is

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unhygienic practices.^[3] In India, poultry butcher shops are of small scale, where we often witness, birds being killed - carcasses plucked and eviscerated by hand, washed with cold water after evisceration, displayed openly for sale exposing to dust and flies, leading to contamination of the meat. Ideally, butchers should have knowledge on meat hygiene and basic facilities required for them. Butchers are involved in the informal, small scale units and come in contact with live birds, their carcasses, blood and body fluids. The occupational health problems, butchers come across are divided into diseases due to biological hazards, musculoskeletal disorders, and occupational injuries.^[4] Health problems commonly encountered are, low back pain, muscular and joint pain, eye irritation, and knife injuries.^[5] Hence, this study aims to know the awareness and hygienic practices among the poultry butchers and assess the knowledge about occupational hazards among them.

MATERIALS AND METHODS

A community-based descriptive, quantitative and cross-sectional study conducted among the poultry butchers in the urban field practice area of Dr. B.R. Ambedkar Medical College, conducted for 5 months between February and June 2015.

Our field practice area consists of two BBMP wards - 32 and 33. Randomly ward 32 was chosen, and all the poultry butcher shops in this ward were included for the study. Ward 32 consisted of 52 poultry butcher shops and the butcher in each shop at the time of visit was included for the study. If a shop had two or more butchers, apart from senior most, others were excluded from the study. The purpose of the study was explained to the butchers and after obtaining oral consent for using the information for research purpose, a personal interview was conducted at their shops and data were collected using a preformed questionnaire.^[4] Data were analyzed using Microsoft Excel.

RESULTS

Out of the 52 shops surveyed, 27 (52%) shops were in the residential area and 25 (48%) shops in the market area. Only 30 (57.6%) of the shops had a valid license. All the butchers were males, and majority was in the age group of 20-39 years (69.2%). Educational status of the butchers varied, 13 (25%) of them were illiterates. Butchers experienced for >5 years were 34 (65%). Majority (40.38%) of the butchers never had any sort of training, followed by trained by their fathers (23%), trained by relatives (19%) and trained by shop owners (15%). Only one butcher had undergone a formal training (Table 1).

Table 1: Profile of butchers according to their educational status

Parameters	n (%)		
	Illiterate	Literate	Total
Location of the shop			
Market area	6 (24)	19 (76)	25 (48)
Residential area	7 (26)	20 (74)	27 (52)
Presence of license			
Licensed	7 (23)	23 (77)	30 (58)
Not licensed	6 (27)	16 (73)	22 (42)
Training for butchering			
Father	3 (25)	9 (75)	12 (23)
Relative/friends	1 (10)	9 (90)	10 (19)
formal training	0 (0)	1 (100)	1 (2)
No training	5 (24)	16 (76)	21 (40)
Others	4 (50)	4 (50)	8 (15)
Experience (years)			
<5	3 (17)	15 (83)	18 (35)
More than 5	10 (29)	24 (71)	34 (65)
Total	13 (25)	39 (75)	52 (100)

The awareness level of the butchers on the health hazards of eating contaminated poultry meat was poor, with only 15 (29%) of them knowing at least one of the health hazard. The knowledge on the occupational hazards among butchers was low, with only 8 (15%) of the butchers knowing at least one hazard among them. According to the butchers, the most important factors for maintaining hygiene were cleanliness of the shop (98%) and cleanliness of the equipment (83%). Personal hygiene (42%), selection of a healthy bird (23%), and disposal of by-products (31%) were some of the other factors identified by the butchers to maintain meat hygiene (Table 2). When observed for the protective equipment's, the butchers never used aprons (46%), gloves (98%), and gumboots (92%).

DISCUSSION

With the poultry industry growing largely, the prevention and control of meat-borne diseases becomes an important factor. Awareness and practices regarding meat handling, among the butchers is important to prevent the occurrence of these diseases in the community as food handlers are a major cause of food contamination.^[5] Butchers also suffer from different diseases as they are exposed to organic dusts and microorganisms. There is a continuous exposure to air borne contaminants causing respiratory problems such as allergic reactions, asthma, and hypersensitivities, pneumonitis, and organic dust toxic syndrome. Dermatitis, rashes irritation, itching, and chemical exposures causing irritation of the eyes are common dermatological hazards among poultry handlers.^[6] Dermatological illness, cancer, and many zoonotic

Table 2: Awareness and practice among butchers according to their educational status

Parameters	n (%)		
	Illiterate	Literate	Total
Knowledge on health hazards due to consumption of contaminated meat			
Yes	2 (15)	13 (33)	15 (29)
No	3 (23)	9 (23)	12 (23)
Don't know	8 (62)	17 (44)	25 (48)
Knowledge on occupational hazard			
Yes	3 (23)	5 (13)	8 (15)
No	6 (46)	24 (62)	30 (58)
Don't know	4 (31)	10 (26)	14 (27)
Factors determining meat hygiene*			
Cleanliness of equipment	12 (92)	31 (79)	43 (83)
Cleanliness setting	13 (100)	38 (97)	51 (98)
Personal hygiene	5 (38)	17 (44)	22 (42)
Selection of healthy chicken	5 (38)	7 (18)	12 (23)
Disposal of by-products	2 (15)	14 (36)	16 (31)

*Multiple choices

diseases are some of the occupational hazards among the poultry butchers.^[7-9]

Only about 57.6% of poultry shops had a valid license. This might be because majority of butchers working in these shops were unaware of the license owned by the owners of these shops. A study on the hygienic status of butchers showed that 94% of the butchers had no formal training,^[10] similarly 98% of butchers in this study had no formal training. In a study by Okojie et al. almost half of the food handlers in their study had received formal health education on food hygiene.^[11]

In this study, there was no knowledge regarding the diseases caused due to consumption of contaminated meat in 25 butchers (48%) and 14 butchers (27%) were unaware about the occupational hazard among them. A study on hygienic status assessment showed that there was no knowledge on hygienic practices among the slaughter men.^[10]

In this study, the two important factors identified by the butchers for maintaining meat hygiene were cleanliness of the shop and cleanliness of the equipment. Since the main sources of contamination of meat are dirty hands of the butchers, clothes, and equipment's of the slaughter houses.^[10]

This study revealed that usage of protective equipment's by the butchers was poor, with 98% of them not using

hand-gloves. This observation can be compared to a study done on mobile food vendors in the United States, where 50% of them were using it.^[12] Only 42% of the butchers were found to use personal protection equipment's in a study conducted at Gazipur district of Das et al.^[6] None of the workers were using aprons in a study in Jagdalpur city.^[10] There are only a few studies on poultry butchers in India. Limitations of the study were that the study consisted of a small sample size, hence further research is needed. Moreover, the butchers could have been biased when the customers were present in the shop at the time of the study.

CONCLUSION

This cross-sectional study conducted in 52 poultry slaughtering facilities in our field practice area revealed the neglect of hygienic practices and its awareness among the poultry butchers and majority of them were unaware of the occupational hazards and the use of protective equipment's. Formal education to the butchers can be one of the important factors to improve the quality of poultry meat.

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