Prevailing Marketing Practices and Consumer Preference for Pork in Bareilly City

S. Ojha[1], S.K. Mendiratta[1*], R.R. Kumar[1], R.K. Agrawal[1], S. Talukder[1], S. Chand[1], R.K. Jaiswal[1] and M.R. Verma[2]

[1]*Division of Livestock Products Technology, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, INDIA*
[2]*Division of Livestock Economics and Statistics, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, INDIA*

Corresponding author: S K Mendiratta; Email: hdlptivri@yahoo.co.in

ABSTRACT

Present study was conducted using purposive sampling technique to identify prevailing marketing practices and consumer preference for pork in Bareilly city. The study revealed that majority of retailers come under middle age group and belong to lower socio-economic strata. Facilities of chiller, deep freezer, disinfectant and packaging and labeling were not available at any retail shops. Majority of respondent sold 30-35kg pork/day with higher frequency of selling at morning within 4-5 hrs of slaughter. Problems faced by retailers were poor financial conditions and lack of marketing chain. Pork retailers required training and aids related to pork business from government. Majority of consumers at Bareilly city belongs to the lower socio-economic strata. Majority of individuals purchased pork at least 1-2 times per week, most of them purchased at morning time. Most of consumer preferred ham cut, purchased meat from road side stalls immediately after slaughter for preparing dishes from pork and preferred stewing. Finally, it can be concluded that pork was sold through unorganized sector, both consumers and retailers were not aware about quality and safety of pork and meager value chain exist for pork business at Bareilly city.

Keywords: Socio-economic strata, Pork retailer, Quality and safety, Value chain

India's meat production is estimated 7.7 million tonnes, in which pork contributes approximately 5.22% (0.402 million tonnes); Uttar Pradesh is leading state for pork production with an estimate of 0.066 million tonnes (BAH & FS, 2018). At global level, per capita consumption of pork (15.8 kg/year) is highest followed by poultry (13.6 kg/year), beef (9.6 kg/year) and sheep and goat meat (1.9 kg/year) (FAOSTAT, 2014). In India, social stigma plays a critical role in pork production and consumption. Muslim population do not consume pork due to their religious taboo, however majority from Hindu community also not take pork because of suspicious about cleanliness of domestic pork. The probable reason considered is natural scavenging habits which limits consumption of pork in India (USDA, 2016).

Pig production in India is primarily in the hands of traditional pig farmers belonging to lowest economic stratum living in the periurban and suburban areas. After attaining the slaughter weight of about 60-80 kg, the primary producers sold pigs in the nearby weekly livestock markets to pork traders or retailers. In the last few years, scenario of marketing of pork has been altered due to changing life style and increase in frequency of consumption (Machado *et al.,* 2014). Further, pig farming has been recognized as one of best enterprise for rural unemployed youth. Therefore, it is becoming necessary to investigate the meat and a meat product attributes which are valued by the consumers and recognize the

areas for improvement while assessing the supply chain (Perez *et al.,* 2009). Further it is also necessary to provide involvement and training of produces, retailers, processor and consumer for overall development (Perez *et al.,* 2009; Trienekens *et al.,* 2013). Therefore, survey of retailers and consumers are very interesting tool to illustrate the actual scenario of retail market which may help in the business of pork and pork products to determine the requirements of retailers and preferences of consumers. With above background, the present study was designed to identify the prevailing marketing practices and consumer preference for pork in Bareilly city.

MATERIALS AND METHODS

For collection of data, purposive sampling technique has been used. Those areas were selected where selling of pork and consumption was more *i.e.,* Negpur, Naibasti, B.D.O. colony, Sanjay Nagar and Izatnagar localities of Bareilly city. Primary data were collected from the retailers and consumers by a pre-structured interview schedule through personal interview. The socio-economic status, selling pattern, quality control systems and details about marketing conditions of pork were obtained by direct questionnaire from retailers. The socio-economic background, meat consumption pattern and purchasing behavior were also obtained through personal interview of pork consumers. A total of 25 retailers and 125 consumers were selected for collection of data regarding prevailing market practices of pork in Bareilly city. The data obtained related to slaughtering practices and selling pattern followed by pork processors and retailers respectively, and consumer behavior towards consumption of pork was analyzed by using SPSS 20.0 software.

RESULTS AND DISCUSSION

Socio-economic status of pork retailers

The socio-economic strata of pork retailers are presented in table 1. The majority of pork retailers (64%) are in the age group of 35-41 years, indicating that young/middle aged are more involved in pork retail business. Majority of respondents were functionally literate (96%). Nuclear/small family systems were predominating with the average size of 6.12 members per family. It could be attributed that people were shifted from joint family to nuclear family.

The observations also revealed occupation of majority of respondents (60%) were pork seller and laborers both. The analysis revealed that majority of pork retailers come under lower income group (72%) followed by medium (20%) income and higher (8%) income group. These results emphasized that majority of respondent involved in this business belong to the lower socio-economic strata and their income sources were restricted with pork selling and labor. The data indicated that majority of respondent (48%) had 5-8 years experience, indicating that majority of pork retailers who involved in this business come under younger age group of category. Most of the respondent learns business techniques from their parents/elder family members. Majority of respondent complaint about no policy for funding for establishment of pork business by the government.

Facilities of chiller, deep freezer, disinfectant and packaging and labeling systems were not available at any retail shops. They were also not aware quality and safety standards regarding meat sale issued by authority. These findings emphasized that majority of pork customers belong to the lower socio-economic strata and were poorly educated.

Table 1: Socio-economic status of retailers

	Frequency (n=25)	Percentage
Age		
35-41	16	64
42-48	6	24
49-55	3	12
Mean±SD	41.25±5.44	
Education		
Functionally literate	24	96
Higher secondary	1	4
Family size		
Small (2-6)	16	64
Medium (7-10)	7	28
Large (11-14)	2	8
Mean±SD	6.12±2.74	
Occupation		
Pork seller	9	36
Pork seller + labour	15	60
Pork seller + service	1	4

Annual income		
Lower (₹ 150000-180000)	18	72
Medium (₹ 180001-210000)	5	20
Higher (₹ 210001-250000)	2	8
Mean±SD	183000±23584	
Respondent experience		
Minimum (5-8)	12	48
Medium (9-11)	9	36
Maximum (12-15)	4	16
Mean±SD	8.28±2.97	

Selling pattern of pork at Bareilly city

Selling pattern of pork at Bareilly city is presented in table 2. The findings revealed that majority of respondents (72%) sold 30 to 35 kg pork per day and only 8% of the respondents sold 41 to 45 kg pork per day. The volume of pork sold per retailer was very low. This small volume indirectly reflects very small earnings/profit for retail meat stall owners. Reddy and Raju (2010) revealed in their study that chicken and mutton was the most preferred meat in Hyderabad city, however pork and beef were not relished, because of religious taboo.

According to majority of pork retailers (56%), most of consumers preferred to purchase ham cut, however 32% and 12% pork retailers told that consumer preferred ribs and bacon, respectively. In contrast to this, Oh and See (2012) reported that majority of pork consumers in China preferred ribs (0.25 kg/week) followed by bacon (0.2 kg/week) and loin (0.19 kg/week). Majority of respondents (68%) sold/meat from hot pork carcasses at morning time, indicating that consumers preferred fresh pork, immediately after slaughter. The consumption pattern of pork in India differs from other countries as peoples do not preferring stored or frozen meat. Retailers/consumers need to educate about effects of handling practices on quality of meat. From the present findings, it can be concluded that many consumers may be processing/cooking pork at rigor stage (4-8 hrs of slaughter). In another study, Mendiratta *et al.* (2012) reported very poor quality of meat when cooked at rigor stage then pre-rigor or post-rigor stages. All respondent sold pork at the rate of 180 ₹/kg. Problems faced by respondents were poor financial conditions and lack of marketing chain. Pork retailers at Bareilly city were not aware that they had to obtain licenses from FSSAI (Food Safety and Standards Authority of India) to

slaughter and sell the pork. Earlier also it has been repeated that meat retailers don't know about any documents which are required for slaughterhouse or for establishment of retail meat shops (USDA, 2016).

Table 2: Selling pattern of pork at Bareilly city

	Frequency (n=25)	Percentage
Daily selling of meat (kg)		
30-35	18	72
36-40	5	20
41-45	2	8
Mean±SD	34.72±3.83	
Cut preferred by consumer		
Ham	14	56
Ribs	8	32
Bacon	3	12
Maximum selling time of meat		
Morning	17	68
Evening	8	32
Average daily rate		
180	25	100
Problems encountered in pork business		
Marketing and financial	25	100
Expectation from government regarding improvement of pork business strategy		
Training and aid (Both)	25	100

Socio-economic status of pork consumers

Socio-economic status of pork consumers is presented in table 3. The data revealed that majority of consumers were middle aged with average age of 36.83 years. Kiran *et al.* (2018) also attributed that middle age group have massive impact on the consumption and purchasing behavior of meat and meat products. Majority of respondents (52.8%) have small number of children with average value of 2.63 children per respondent. Majority of respondents (42.4%) were contractual employees and were engaged in labor work or contractual work at different private and government firms. Majority of respondents (59.2%) come under low income group with average income of Rs. 18104/ month. The low income could be the most probable reason for contractual employees to do the labour work at different private and government firms.

Pork is still considered to be affordable meat for poor, 9% of consumers indicated that rich people prefer the chicken or chevon, linking pork consumption with status.

Table 3: Socio-economic status of pork consumers

	Frequency (n=125)	Percentage
Age		
Younger (25-33)	35	28
Medium (34-42)	64	51.2
Older (>43)	26	20.8
Mean± SD	36.83±6.029	
Family size		
Nuclear family (4-7)	96	76.8
Joint family (8-11)	29	23.2
Mean± SD	6.360±1.893	
Children		
Small no. (1-2)	66	52.8
Medium no. (3-4)	42	33.6
Large no. (5-6)	17	13.6
Mean± SD	2.632±1.341	
Occupation of respondent		
Contractual employ	50	40
Own business	31	24.8
Government employ	19	15.2
Contractual employ ± Own business	25	20
Occupation of household head		
Contractual employ	53	42.4
Own business	32	25.6
Government employ	18	14.4
Contractual employ ± Own business	22	17.6
Respondent income/month		
Low (₹ 10000-18333)	74	59.2
Medium (₹ 18334-26666)	42	33.6
High (₹ 26667-35000)	9	7.2
Mean± SD	18104±6081.20	
Monthly expenditure on pork		
Low (₹ 1000-1833)	68	54.4
Medium (₹ 1834-2666)	46	36.8
High (₹ 2667-3500)	11	8.8
Mean± SD	1792±638.94	

Purchasing behavior and consumption pattern

Purchasing behavior and consumption pattern of pork is presented in table 4. Majority of respondents (54.4%)

had monthly expenditure of ₹ 1000 to 1833 on pork with average of ₹ 1792/month/individual. It could be attributed that most of consumer belong to lower socio-economic strata, thereby spent according to their monthly income. Monthly income of respondents was positively correlated with monthly expenditure on pork (Table 4).

Table 4: Meat and purchasing behavior consumption pattern of pork

	Frequency (n=125)	Percentage
Monthly expenditure on pork		
Low (₹ 1000-1833)	68	54.4
Medium (₹ 1834-2666)	46	36.8
High (₹ 2667-3500)	11	8.8
Mean± SD	1792±638.94	
How many times pork consumed per week		
Minimum (1-2)	67	53.6
Maximum (3-4)	58	46.4
Mean± SD	2.464±0.929	
Quantities of meat consume by respondent /week in kg		
Low (1-2)	47	37.6
Medium (3-4)	67	53.6
High (5-6)	11	8.8
Mean± SD	2.888±1.179	
Meat purchasing time		
Morning	69	55.2
Afternoon	7	5.6
Evening	47	37.6
Whole day	2	1.6
Cuts preferred by consumer		
Ham	78	62.4
Bacon	2	1.6
Ribs	45	36
Cooking time after purchase		
1-2 hr	93	74.4
3-4 hr	18	14.4
5-6 hr	14	11.2
Preferred meat characteristics during purchasing of pork		
Colour	31	24.8
Colour + texture + odour	80	64
Price	14	11.2
Preferred place for meat purchase		
Road side stall	95	76
Departmental store	5	4
Market	22	17.6

Storage of meat		
Refrigeration temperature	42	33.6
Freezing temperature	4	3.2
Room temperature	79	63.2
Type of meat like by respondent		
Immediately slaughter meat	88	70.4
Store meat	29	23.2
Both	8	6.4
Type of cooking followed by consumer		
Grill	4	3.2
Fry	22	17.6
Stew	99	79.2
Price of pork		
Low (₹ 150-160)	32	25.6
Medium (₹ 161-170)	0	0
Higher (₹ 171-180)	93	74.4
Mean± SD	175±11.03	

Majority of respondents consumed pork at least 1 to 2 times/week with average rate of 2.46 times. Since, most of pork consumers belong to the lower socio-economic strata, monthly income was also very low and price of pork was high, therefore rate of consumption of pork per week was also low. Also, monthly income and monthly expenditure on pork was positively correlated with the pork consumption. Study conducted by Sacli (2018) revealed that the consumers belong to higher income strata had higher meat consumption rate. Mao *et al.* (2016) also stated that income and price are important factors that affect the meat consumption and making larger differences in consumption level among people. In terms of quantity, majority of respondents (53.6%) consumed 3 to 4 kg pork per week. The most probable reason for comparatively

higher quantity was large family size, other factors like habit, health and preference toward pork also influenced the purchasing behavior of pork. The family size and quantity of meat consumed per week is positively correlated (Table 5). Aral *et al.* (2013) also revealed in their study that the average family size in the Ankara province city was 3.9 people and the monthly average chicken consumption was 3.31 kg.

The analysis revealed that majority of consumers (69%) purchased pork at morning time. As pigs were slaughtered in the early morning, most of consumers preferred purchasing pork at morning time immediately after processing of carcasses. Majority of consumers prefer to purchase ham portion (62.4%) followed by ribs (36%) and bacon (1.6%). Oh and See (2012) reported in their study that majority of pork consumers in China preferred ribs (0.25 kg/week) followed by bacon (0.2 kg/week) and loin (0.19 kg/week). In contrast to these, South Korean pork consumers preferred high fat containing portion i.*e.,* Boston Butt and had decreased preference towards low fat containing parts *i.e.,* loin, picnic, shoulder and ham (Vonada *et al.,* 2000).

Present study revealed that majority of pork consumers (74.4%) cooked pork within 1-2 hr after purchase, however very less number of consumers (11.2%) stored pork for 5-6 hr. In Indian scenario, the meat consumption pattern is different from other countries as most of the people prefer cooking meat immediately after purchasing and generally not prefer stored or frozen meat. Most of pork consumers (80%) gave emphasis on meat quality especially color, texture and odor during purchase, and for 31% of respondents color was main criterion at the time

Table 5: Pearson's correlation coefficients between different variables of consumption preference (n=125)

Parameters	Family size	Monthly income	Monthly expenditure on pork	Consumption time of pork per week	Quantity of pork consumed per week
Family size	1	0.100	0.293**	0.266**	0.242**
Monthly income	0.100	1	0.520**	0.278**	0.393**
Monthly expenditure on pork	0.293**	0.520**	1	0.781**	0.859**
Consumption time of pork per week	0.266**	0.278**	0.781**	1	0.732**
Quantity of pork consumed per week	0.242**	0.393**	0.859**	0.732**	1

Statistically significant correlations between variables are represented by asterix; *<0.05, **<0.01.

of pork purchase. Mao *et al.* (2016) stated that majority of meat consumers can only judge meat freshness from color and appearance of meat, thus meat processors should adopt strategy to improve fresh meat color to attract the consumers.

Majority of respondents (76%) preferred to purchase pork from roadside stall. However, 17.6% and 4% respondents purchased pork from market and departmental stores, respectively. It might be attributed that there is no designated slaughterhouses for pig in the entire Bareilly region. Further, unlike buffalo, sheep and chevon meat seller, pork seller cannot easily get shop on rent at market because of social and religious stigma attached with pork. At Bareilly city Municipal Corporation has also not provided any particular space for pork business. Kiran *et al.* (2018) revealed in their study that at Bangalore, 46.5% of meat consumers buy directly from meat shop and only 4.7% of the consumer purchased from supermarket. Ndwandwe and Weng (2017) reported that majority of consumer in Swaziland purchase pork from butcher shop (65.0%) and supermarket (46%). The current study indicated that majority of respondent (63.2%) store purchased pork at room temperature followed by refrigeration (33.6%) and freezing temperature (3.2%).

Majority of respondents (70.4%) like immediately purchase and cooking of pork after slaughter however only 23.2% respondents preferred stored meat. Contrary to above finding, Ndwandwe and Weng (2017) reported that pork consumers of Swaziland mainly purchased frozen pork (63.8%) followed by fresh (29.1%) and only 7.1% purchased processed pork products. Majority of consumers (79.2%) preferred stewing type of cooking for pork followed by frying (17.6%) and grilling (3.2%). In India, meat-processing industry should develop products by following stewing type of cooking, because most of consumers in India are following this type of cooking method. Kiran *et al.* (2018) also reported that majority of meat consumers preferred gravy type of meat products rather than dry and biryani type. The average rate of pork at Bareilly city was ₹ 175 and majority of pork consumers (74.4%) purchased pork at ₹ 170 to 180.

CONCLUSION

The study conducted in Bareilly city to identify the prevailing marketing practices and consumer preference

for pork shows that both pork retailers and pork consumers belong to lower socio-economic strata. Social stigma, religious beliefs, customs and taboos were limiting factors for consumption of pork. Personnel involved in pork supply chain were not aware about quality and safety related to pork. Thus, policy makers, pork development corporations, extension agencies should come together to formulate the strategies to fulfill the requirements of peoples involved in the pork business. The agencies, organizations, personnel who are involved in marketing should initiate steps for supply of wholesome pork to the consumers. There is strong need to educate retailers and consumers to avoid cutting and cooking pork during rigor stage.

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