



RESEARCH PAPER

Identifying urban consumer behaviour in purchasing of frozen meat and meat products in Andhra Pradesh

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Abstract : The frozen food products, especially frozen meat products, offer enhanced palatability as compared to their home-cooked counterparts, these products are available year-round regardless of the season. A representative sample of 120 meat consumers in three cities of Andhra Pradesh *i.e.*, Vishakhapatnam, Vijayawada and Tirupati were taken for the study. Consumption pattern of majority of respondents reveals that they consume eggs daily, poultry meat once a week, mutton and sea food once in a month and never consumed beef and pork. Average monthly consumption of majority respondents reveals they consume 60-120 eggs, 3-5 kg chicken, upto 1 kg mutton and sea food, respectively. The major reasons for consumer stimuli towards purchasing of meat and meat products were meat is rich source of protein, tasty and easily available. The most considered motives by sample respondents for purchasing and consumption of meat and meat products were 'Meat is good for healthy lifestyle' and 'Consumption of meat is in family/religion culture', respectively. The major motives for frozen meat and meat products consumption were "Convenience of store and use", "Pre prepared (readiness)" and "Time saving", respectively. The majority of the respondents prefer 30-40 per cent frozen fish and sea food in their diet when compared to other categories of meat.

Key Words : Consumer stimuli, Consumer motives, Frozen meat, Consumption pattern

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INTRODUCTION

Livestock plays a crucial role in Indian economy. About 20.5 million people relies upon livestock for their livelihood. Livestock contributed 16 per cent to the income of small farm households as against an average of 14 per cent, for all rural households. Livestock provides livelihood to two-third of rural community. The world now produces more than three times the quantity of meat

as it did fifty years ago. Around 80 billion animals are slaughtered for meat every year globally. In 2021, global meat production was around 340 million tonnes per year, whereas India produces around 7.7 million tonnes of meat annually. India's meat production is occupied by 36 per cent of poultry meat followed by 22 percent of buffalo meat, 18 per cent of goat meat, 9 per cent of pig meat, 8 per cent of sheep meat and 6 per cent of other meats, respectively (source: Department of Animal Husbandry,

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Dairying and Fisheries DAHD, 2021).

According to the 2021 report by the market research company, IMARC, the frozen food industry in India is spreading its wings and is expected to expand at a Compound Annual Growth Rate (CAGR) of 17 per cent between 2019-2024. The market for frozen foods comprises of “frozen meat products,” “frozen greens,” “frozen fruits,” and “frozen vegetables.” Since frozen foods don’t require any additional preparation or culinary skill, they are becoming more and more popular in India. Moreover, frozen food products, especially frozen meat products, offer enhanced palatability as compared to their home-cooked counterparts, these products are available year-round regardless of the season. Furthermore, end-users can buy these products through various distribution channels such as supermarkets and hypermarkets, convenience stores, departmental stores, etc.

Frozen meat and meat products shopping has become more popular now-a-days with the growing retail outlets and online shopping. As, one can see a clear need waiting to be served through technology-based intervention. Entrepreneurs have identified the opportunity of opening frozen meat and meat products stores. In this hustle and bustle of modern lifestyle with long working hours and heavy traffic people associate shopping at butcher shop, meat market as tiresome and stressful. People are willing to spend their time and energy on purchasing of frozen meat and meat products through e-commerce, specialized meat marts and retail outlets which can increase their healthy diet consumption pattern and choosing of wide variety of meat products. Most of the existing retailers offer their services in metros and major urban centers targeting the urban population having a wide consumer base *viz.*, working couples, nuclear families, students fending for themselves, new mothers, senior citizens and large families.

Frozen meat and meat products are facing many constraints in the Indian market due to low acceptance levels, low availability of Indian recipes, low promotional offers, traditional perceptions like fresh products are more nutritious than frozen products and the cold chain network yet to develop in semi-urban, rural levels. The separation of frozen meat from other frozen products is required in India as vegetarian population is high and customs and cultures varies in larger extents. Although, over the last couple of years, urban milliners have slowly moved towards frozen meat buying on account of various factors such as convenience, certified meat, standard

packaging and hygienic meat. with the rapid increase in retail stores, supermarkets and proper refrigerator facilities, the demand, for frozen meat has been growing to greater extents.

In this context the present study is taken up for “Identifying Urban Consumer Behaviour in Purchasing of Frozen Meat and Meat Products in Andhra Pradesh” with the objective of “Studies on consumerbehaviour towards frozen meat and meat products.”

MATERIAL AND METHODS

This, study will be conducted purposively in Vishakhapatnam, Vijayawada, and Tirupati because these are most populous cities of north coastal region, coastal region and Rayalaseema region respectively in Andhra Pradesh state. Random sampling technique was adopted. A representative sample of 120 consumers purchasing meat were selected for the study. Primary data was collected through personnel interviews with the help of well-structured questionnaire. Utilizing both quantitative and qualitative research methods, the data acquired was analysed.

The collected data were analyzed by using descriptive statistics and Likert’s scale for achieving the set objectives of the study.

RESULTS AND DISCUSSION

The buying behavior of sample consumers was analyzed by collecting the data pertaining frequency of consumption, monthly consumption, consumer stimuli, the motives of consumers towards purchasing of fresh meat, frozen meat and meat products, percentage of frozen meat in diet, attitude of the consumers towards frozen meat.

Frequency of consumption of meat and meat products by sample consumers :

The information regarding the frequency of consumption of meat and meat products by sample consumers was analyzed and divided in to seven categories *viz.*, daily, once in week, monthly once, less than 15 times in month, more than 15 times in month, occasional and never. the results were provided in Table 1.

It was deduced from Table 1 and Fig. 1 that 49.17 per cent of sample consumers included eggs in their diet on a daily basis. While 37.5 per cent of the sample’s

respondents consumed chicken meat (broiler/country fowl) once a week. With a sample per cent of 44.17 for mutton and 27.50 per cent for seafood, the majority of sample consumers consume such foods once in a month. It has been found that the majority of consumers never consume beef or pork products, with 84.17 per cent and 80.83 per cent sample respondents, respectively.

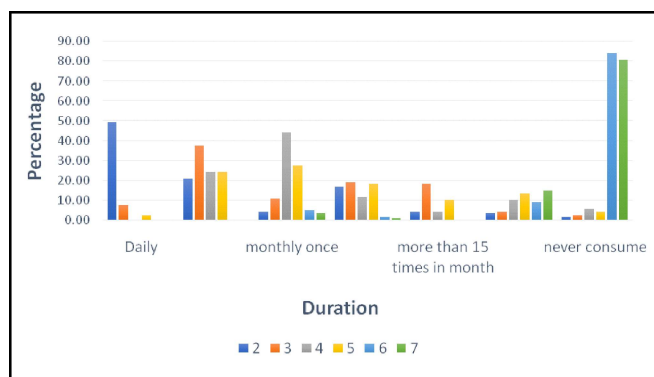


Fig. 1: Frequency of consumption of meat and meat products by sample consumers

Average monthly family consumption of meat and meat products :

The information regarding the average monthly

family consumption of meat and meat products by sample consumers was analyzed and divided in to five categories viz., do not consume, “ upto 1kg, (eggs < 30) /month”, “1-3 kg, (eggs 30-60) /month”, “3-5 kg, (eggs 60-120) /month” and “Above 5kg, (eggs more than 120) /month”, respectively. the results were provided in Table 2.

It was deduced from Table 2 and Fig. 2 that 40.00 per cent of sample consumers were consuming 60-120 eggs in their diet in a month. While 31.67 per cent of the sample’s respondents consumed chicken meat (broiler/country fowl) 3-5 kg per month. With a sample per cent

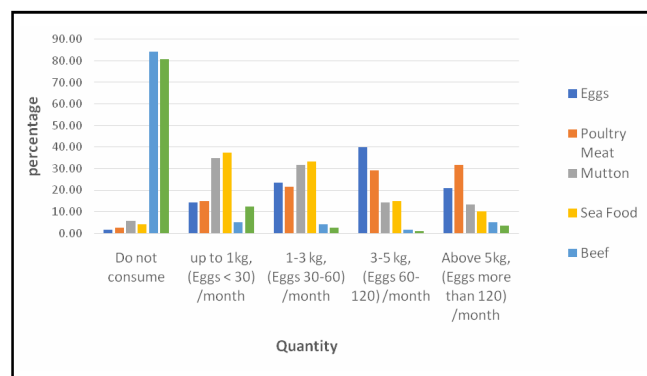


Fig. 2: Average monthly family consumption of meat and meat products

Table 1: Frequency of consumption of meat and meat products by sample consumers

| Sr. No. | Category | Daily | | Once in a week | | Monthly once | | Less than 15 times in month | | More than 15 times in month | | Occasionally | | Never consume | |
|---------|--------------|-------|-------|----------------|-------|--------------|-------|-----------------------------|-------|-----------------------------|-------|--------------|-------|---------------|-------|
| | | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| 1. | Eggs | 59 | 49.17 | 25 | 20.83 | 5 | 4.17 | 20 | 16.67 | 5 | 4.17 | 4 | 3.33 | 2 | 1.67 |
| 2. | Poultry meat | 9 | 7.50 | 45 | 37.50 | 13 | 10.83 | 23 | 19.17 | 22 | 18.33 | 5 | 4.17 | 3 | 2.50 |
| 3. | Mutton | 0 | 0.00 | 29 | 24.17 | 53 | 44.17 | 14 | 11.67 | 5 | 4.17 | 12 | 10.00 | 7 | 5.83 |
| 4. | Sea Food | 3 | 2.50 | 29 | 24.17 | 33 | 27.50 | 22 | 18.33 | 12 | 10.00 | 16 | 13.33 | 5 | 4.17 |
| 5. | Beef | 0 | 0.00 | 0 | 0.00 | 6 | 5.00 | 2 | 1.67 | 0 | 0.00 | 11 | 9.17 | 101 | 84.17 |
| 6. | Pork | 0 | 0.00 | 0 | 0.00 | 4 | 3.33 | 1 | 0.83 | 0 | 0.00 | 18 | 15.00 | 97 | 80.83 |

N = no of respondents

Table 2 : Average monthly family consumption of meat and meat products

| Sr. No. | Category | Do not consume | | Up to 1kg, (eggs < 30) /month | | 1-3 kg, (eggs 30-60) /month | | 3-5 kg, (eggs 60-120) /month | | Above 5kg, (eggs more than 120) /month | |
|---------|--------------|----------------|-------|-------------------------------|-------|-----------------------------|-------|------------------------------|-------|--|-------|
| | | N | % | N | % | N | % | N | % | N | % |
| 1. | Eggs | 2 | 1.67 | 17 | 14.17 | 28 | 23.33 | 48 | 40.00 | 25 | 20.83 |
| 2. | Poultry meat | 3 | 2.50 | 18 | 15.00 | 26 | 21.67 | 35 | 29.17 | 38 | 31.67 |
| 3. | Mutton | 7 | 5.83 | 42 | 35.00 | 38 | 31.67 | 17 | 14.17 | 16 | 13.33 |
| 4. | Sea food | 5 | 4.17 | 45 | 37.50 | 40 | 33.33 | 18 | 15.00 | 12 | 10.00 |
| 5. | Beef | 101 | 84.17 | 6 | 5.00 | 5 | 4.17 | 2 | 1.67 | 6 | 5.00 |
| 6. | Pork | 97 | 80.83 | 15 | 12.50 | 3 | 2.50 | 1 | 0.83 | 4 | 3.33 |

N = No. of respondents

of 35.00 for mutton and 37.50 per cent for seafood, the majority of sample consumers consume such foods up to 1kg per month. It has been found that the majority of consumers never consume beef or pork products, with 84.17 per cent and 80.83 per cent of sample respondents, respectively.

Consumers stimuli towards purchasing of meat and meat products :

The information regarding the consumers stimuli towards purchasing of meat and meat products were considered to measure why the consumers prefer to consume meat and meat products and the opinion of the sample consumers information was analyzed using through a Ten-point rating scale was constructed with least considered statement rated as One (1) and most considered statement rated as Ten (10), respectively. The scores obtained for each identified parameter were summated and the respective means were estimated and are arranged in ascending order as per mean values obtained. Identified parameters were ranked as per mean values as shown in below Table 3.

From Table 3, it was inferred that the most considered statements of consumer stimuli for purchasing and consumption of meat and meat products were, 'Meat is rich source of protein', 'Meat is tasty', 'Easily available' and 'Consumption of meat makes physically strong and fit' with a mean score of 7.20, 7.13, 6.70 and 6.47, respectively. The statements

like 'Meat provides important for overall growth of kids and young family members', 'Meat is important for maintain health of sick and old aged persons in the family' and 'Meat is important for middle aged family members' were least considered with mean scores of 5.88, 5.77 and 5.72, respectively. Hence, the statements 'Meat is rich source of protein', 'Meat is tasty', and 'Easily available' were most considered consumer stimuli statements while purchasing of the meat and meat products.

The motives of consumers towards purchasing of meat and meat products :

The information regarding motives of consumers towards purchasing of meat and meat products were considered to measure why the consumers prefer to consume meat and meat products and the opinion of the sample consumers information was analyzed using through a Ten-point rating scale was constructed with least considered statement rated as One (1) and most considered statement rated as Ten (10), respectively. The scores obtained for each identified parameter were summated and the respective means were estimated and are arranged in ascending order as per mean values obtained. Identified parameters were ranked as per mean values as shown in below Table 4.

From Table 4, it was inferred that the most considered motives for purchasing and consumption of meat and meat products were, 'Meat is good for healthy

Table 3: The consumers stimuli towards purchasing of meat and meat products

| Sr. No. | Motives for purchasing meat and meat products | Total score | Mean score | Rank |
|---------|--|-------------|------------|------|
| 1. | Meat is rich source of protein | 864 | 7.20 | 1 |
| 2. | Meat is tasty | 856 | 7.13 | 2 |
| 3. | Easily available | 804 | 6.70 | 3 |
| 4. | Consumption of meat makes physically strong and fit | 776 | 6.47 | 4 |
| 5. | Meat provides important for overall growth of kids and young family members | 706 | 5.88 | 5 |
| 6. | Meat is important for maintain health of sick and old aged persons in the family | 692 | 5.77 | 6 |
| 7. | Meat is important for middle aged family members | 686 | 5.72 | 7 |

Table 4 : The motives of consumers towards purchasing of meat and meat products

| Sr. No. | Motives for purchasing meat and meat products | Total score | Mean score | Rank |
|---------|---|-------------|------------|------|
| 1. | Meat is good for healthy lifestyle | 852 | 7.10 | 1 |
| 2. | Consumption of meat is in family/religion culture | 800 | 6.67 | 2 |
| 3. | Consumption of meat gives social esteem (social status) | 788 | 6.57 | 3 |
| 4. | Meat is part of family gathering/ parties | 710 | 5.92 | 4 |
| 5. | Simple and easy to cook | 684 | 5.70 | 5 |
| 6. | Meat is affordable | 456 | 3.80 | 6 |

lifestyle', 'Consumption of meat is in family/religion culture' and 'Consumption of meat gives social esteem (social status)' with a mean score of 7.10, 6.67, and 6.57 respectively. The least considered motives were 'Meat is part of family gathering/ parties', 'Simple and easy to cook' and 'Meat is affordable', with a mean score of 5.72, 5.70, and 3.80, respectively. Thus, the major consumer motives were 'Meat is good for healthy lifestyle' and 'Consumption of meat is in family/religion culture', respectively.

The motives of consumers towards purchasing of frozen meat and meat products :

The information regarding the motives of consumers towards the purchase of frozen meat and meat products was considered. In order to measure the factors that consumers prefer to purchase the frozen meat and meat products, the opinion of the sampled consumers was analyzed using a five-point rating scale, with the least considered statement rated as One (1) and the most considered statement rated as Five (5), respectively. The scores obtained for each identified parameter were summated, and the respective means were estimated

and are arranged in ascending order as per the mean values obtained. The identified parameters were ranked according to their mean values, as shown in Table 5.

Table 5 revealed that "Convenience of store and use", "Pre prepared (readiness)", and "Time saving" were the three most important reasons for consumers when deciding whether to purchase and consume frozen meat and meat products, with mean scores of 3.60, 3.40, and 3.15, respectively. While the factors like "Promotional offers", "Affordable" and "Off season availability" received the least amount of consideration, with mean scores of 2.85, 2.83, and 2.48, respectively. Hence, the three most important reasons for consumers when deciding whether to purchase and consume frozen meat and meat products "Convenience of store and use", "Pre prepared (readiness)", and "Time saving".

Percentage of the various frozen meat categories consumed by sample consumers in their diet :

The information regarding the percentage of the various frozen meat categories consumed by sample consumers in their diet was analyzed and divided in to six categories viz., below 10 per cent, 10-20 per cent,

| Sr. No. | Rating | Total score | Mean score | Rank |
|---------|---|-------------|------------|------|
| 1. | Convenience of store and use | 432 | 3.60 | 1 |
| 2. | Pre prepared (readiness) | 408 | 3.40 | 2 |
| 3. | Time saving | 378 | 3.15 | 3 |
| 4. | Easy to cook | 374 | 3.12 | 4 |
| 5. | Certificated Halal cutting/ FSSAI certification | 369 | 3.08 | 5 |
| 6. | Wide range /variety | 359 | 2.99 | 6 |
| 7. | Flexibility of any time meal preparation | 350 | 2.92 | 7 |
| 8. | Suitable for recipe | 349 | 2.91 | 8 |
| 9. | Premium quality | 348 | 2.90 | 9 |
| 10. | Tasty products | 347 | 2.89 | 10 |
| 11. | Promotional offers | 342 | 2.85 | 11 |
| 12. | Affordable | 340 | 2.83 | 12 |
| 13. | Off season availability | 298 | 2.48 | 13 |

| Sr. No. | Categories | Total Respondents | Products respondents consuming | Products respondents never consumed | Respondents consuming frozen products | Respondents never consumed frozen products |
|---------|--------------|-------------------|--------------------------------|-------------------------------------|---------------------------------------|--|
| 1. | Eggs | 120 | 118 | 2 | 115 | 3 |
| 2. | Poultry meat | 120 | 117 | 3 | 112 | 5 |
| 3. | Mutton | 120 | 112 | 7 | 111 | 2 |
| 4. | Fish | 120 | 117 | 3 | 114 | 3 |
| 5. | Sea food | 120 | 115 | 5 | 112 | 3 |
| 6. | Beef | 120 | 19 | 101 | 14 | 5 |
| 7. | Pork | 120 | 23 | 97 | 19 | 4 |

| Percentage of frozen products consumed to total meat consumption | | | | | | | |
|--|--------------|--|---------------|----------------|----------------|----------------|-------------------|
| Sr. No. | Categories | Respondents never consumed frozen products | 1-10 per cent | 11-20 per cent | 21-30 per cent | 31-40 per cent | above 40 per cent |
| 1. | Eggs | 3 (2.50) | 106 (88.33) | 9 (7.50) | 0 (0.00) | 0 (0.00) | 0 (0.00) |
| 2. | Poultry meat | 5 (4.17) | 16 (13.33) | 96 (80.00) | 0 (0.00) | 0 (0.00) | 0 (0.00) |
| 3. | Mutton | 2 (1.67) | 100 (83.33) | 11 (9.17) | 0 (0.00) | 0 (0.00) | 0 (0.00) |
| 4. | Fish | 3 (2.50) | 15 (12.50) | 12 (10.00) | 87 (72.50) | 0 (0.00) | 0 (0.00) |
| 5. | Sea food | 3 (2.50) | 8 (6.67) | 16 (13.33) | 52 (43.33) | 36 (30.00) | 0 (0.00) |
| 6. | Beef | 5 (4.17) | 11 (9.17) | 2 (1.67) | 1 (0.83) | 0 (0.00) | 0 (0.00) |
| 7. | Pork | 4 (3.33) | 12 (10.00) | 4 (3.33) | 3 (2.50) | 0 (0.00) | 0 (0.00) |

Note : Percentage of respondents was provided in parenthesis

20-30 per cent, 30-40 per cent, and above 40 per cent, respectively. the results were provided in Table 6.

It was deduced from Table 6 that 88.33 per cent respondents consume “below 10 per cent” of frozen eggs, 80 per cent respondents consume “11-20 per cent” of

frozen poultry meat, 83.33 per cent respondents consume “below 10 per cent” frozen mutton in their diet. 72.50 per cent and 43.33 per cent respondents stated that they consume “21-30 per cent” of frozen fish and frozen sea food in their diet. 30.00 per cent respondents consume

Table 7 : The attitude of consumers towards purchasing of frozen meat and meat products

| Sr. No. | Attitudes of consumers | Strongly agree | | Agree | | Can't say | | Disagree | | Strongly disagree | | Total score | Mean score |
|---------|--|----------------|-----|-------|-----|-----------|-----|----------|----|-------------------|----|-------------|------------|
| | | N | S | N | S | N | S | N | S | N | S | | |
| 1. | Frozen meat can be preserved for long time compared to fresh meat | 56 | 280 | 48 | 192 | 10 | 30 | 4 | 8 | 2 | 2 | 512 | 4.27 |
| 2. | Frozen meat offers wide range of products in off season (Sea food) | 19 | 95 | 75 | 300 | 18 | 54 | 8 | 16 | 0 | 0 | 465 | 3.88 |
| 3. | Frozen meat is readily available at any time | 28 | 140 | 60 | 240 | 22 | 66 | 8 | 16 | 2 | 2 | 464 | 3.87 |
| 4. | Frozen meat appearance is as good as fresh meat | 28 | 140 | 48 | 192 | 22 | 66 | 20 | 40 | 2 | 2 | 440 | 3.67 |
| 5. | Frozen meat is convenient easy to cook when compared to fresh meat | 16 | 80 | 52 | 208 | 38 | 114 | 8 | 16 | 6 | 6 | 424 | 3.53 |
| 6. | Frozen meat equally nutritious as fresh meat | 13 | 65 | 39 | 156 | 42 | 126 | 20 | 40 | 6 | 6 | 393 | 3.28 |
| 7. | Frozen meat is as tasty as fresh meat | 14 | 70 | 32 | 128 | 52 | 156 | 16 | 32 | 6 | 6 | 392 | 3.27 |
| 8. | Frozen meat is as aromatic as fresh meat | 14 | 70 | 42 | 168 | 33 | 99 | 23 | 46 | 8 | 8 | 391 | 3.26 |
| 9. | Frozen meat is as juicy as fresh meat | 16 | 80 | 32 | 128 | 46 | 138 | 18 | 36 | 8 | 8 | 390 | 3.25 |
| 10. | The quality of frozen meat is as good as fresh meat | 12 | 60 | 40 | 160 | 30 | 90 | 29 | 58 | 9 | 9 | 377 | 3.14 |
| 11. | Frozen meat is value for money (affordable) | 12 | 60 | 34 | 136 | 40 | 120 | 26 | 52 | 8 | 8 | 376 | 3.13 |
| 12. | Frozen meat is as tender as fresh meat | 4 | 20 | 44 | 176 | 38 | 114 | 22 | 44 | 12 | 12 | 366 | 3.05 |
| 13. | Frozen meat is cheaper than fresh meat | 6 | 30 | 32 | 128 | 26 | 78 | 40 | 80 | 16 | 16 | 332 | 2.77 |

N = No. of respondents S = score

“31-40 per cent” frozen sea food. Whereas, only 11 respondents and 12 respondents stated that they consume “below 10 per cent” of frozen beef and frozen pork in their diet, respectively. Hence, majority of the respondents prefer fish and sea food in frozen form when compared to other categories of meat.

The attitude of consumers towards purchasing of frozen meat and meat products :

The information regarding the attitude of consumers towards purchasing of frozen meat and meat products was considered and thirteen statements were made to understand the consumers attitude towards frozen meat and meat products purchased and the opinion of the sample consumers information was analyzed using through a five-point rating scale as per this method the scores of 5,4,3,2 and 1 were given against strongly agree, agree, neutral, disagree, strongly disagree, respectively. Mean scores were calculated and ranks were given to the aspects according to the mean score and the results were presented in the Table 7.

From Table 7, it was inferred that the statements indicating the consumers attitude towards frozen meat and meat products were “Frozen meat can be preserved for long time compared to fresh meat”, “Frozen meat offers wide range of products in off season (Sea food)” and “Frozen meat is readily available at any time” with their mean scores of 4.27, 3.88 and 3.87 respectively. Whereas the least considered factors while purchasing the frozen meat are “Frozen meat is value for money (affordable)”, “Frozen meat is as tender as fresh meat”, and “Frozen meat is cheaper than fresh meat” with least mean scores of 3.13, 3.05 and 2.77 respectively. Hence the frozen meat contribute for long standing, offers wide range of products and readily available.

Conclusion:

Consumption pattern of majority of respondents reveals that they consume eggs daily, poultry meat once a week, mutton and sea food once in a month and never consumed beef and pork. Average monthly consumption of majority respondents reveals they consume 60-120 eggs, 3-5 kg chicken, up to 1 kg mutton and sea food, respectively. The major reasons for consumer stimuli towards purchasing of meat and meat products were Meat is rich source of protein, tasty, and Easily available. The most considered motives by sample respondents for purchasing and consumption of meat and meat products were ‘Meat is good for healthy lifestyle’ and ‘Consumption of meat is in family/religion culture’, respectively. The major motives for frozen meat and meat products consumption were “Convenience of store and use”, “Pre prepared (readiness)”, and “Time saving”, respectively. The majority of the respondents prefer 30-40 per cent frozen fish and sea food in their diet when compared to other categories of meat.

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