

Consumption Pattern of Meat and Processed Meat Products in Kerala, India

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ABSTRACT: The number of meat eaters have increased, contrary to the popular belief that Indian population is predominantly vegetarian. India's total meat production as well as per capita availability of meat has shown steady increase in the past years. In this regard, a survey was conducted among the population of Kerala to understand consumer preference of meat species, frequency of consumption, knowledge about food safety and HACCP, reason for preference of meat etc. The survey was responded by fifty persons, out of which 46 per cent were female and 54 per cent were male. Irrespective of age, education and area of residence, chicken was the most opted meat. Fresh meat was preferred by most of the respondents and many consumed meat every 1 – 3 days. Hot processing of meat is liked by many and products like sausages, cutlets, bacon etc. were the common processed products that were consumed by the respondents. The respondents were aware of FSSAI rules, but they thought that the shops from where meat was purchased did not have any such certification. The study will contribute towards understanding the consumption pattern and market expectations of the consumers, which will play a direct role in improving the product quality, availability and marketing strategies.

Keywords: Consumption Pattern, Meat, Meat Products, Processed Meat, Food Safety.

INTRODUCTION

Even though the vegetarian population of India is significant, there are many, who love consuming varied kind of meat in India. Also, according to a recent study of National Family Health Survey (NFHS -5, 2019-2021), it is found that the number of meat eaters have increased, contrary to the popular belief that Indian population is predominantly vegetarian. This healthy change can be attributed to the increase in income and concerns about health. This trend is seen all over the world and the need for good quality protein is ever increasing. Kerala has emerged as one of the largest consumers of meat in the country. It is estimated that 70% of the population prefers non-vegetarian foods, especially during celebrations (George *et al.*, 2016). Serving non-vegetarian meals at social events has become popular among Keralites because of their way of life. Chicken, duck, turkey, guinea fowl, quail, emu, geese, pork, chevon, mutton, beef and other poultry are common ingredients in Kerala's non-vegetarian cuisine. The demand for chicken, cara beef, pork, chevon and mutton is particularly high among them.

India's total meat production as well as per capita availability of meat has shown steady increase in the

past years. Compared to 2020 – '21, a growth rate of 5.62% is observed in meat production during 2021 – '22. Poultry meat contributed a major share of 51.44% in total meat production followed by carabeef, which contributed 17.49%. In India, the major meat animals include poultry, buffalo, goat, sheep, pig and cattle and altogether they made up a total of 9.29 million tons of meat during the year 2021 – '22. Out of this, Maharashtra holds the major share of 12.25% and Kerala holds 8th position with a contribution of 4.99% (BAHS 2022). The two main factors influencing total meat intake per capita are income per capita and the pace of urbanisation. Other influences include Western culture, the employment of women, economic and social globalisation, and meat pricing. Countries that have historically produced meat have, built a culture that values meat, which is reflected in their per capita consumption levels. Land availability and a favourable climate are significant natural endowment elements for livestock production. On average, people who live in temperate zones consume more meat than people who live in tropical and arctic/subarctic zones. They attribute this to the temperate zone's propensity for

grain production, which is required for the extensive production of meat (Milford *et al.*, 2019). Increased consumption of meat has raised many questions regarding issues like processing, packaging, preference of meat, humane slaughter etc. In the future, the meat consumption is thought to increase even more. A comprehensive worldwide response is necessary to address the global problem of food safety. Three types of hazards can contaminate meat: chemical, biological, and hazardous levels of cleaning and sanitizing chemicals. Chemical hazards include poisonous chemicals, while biological hazards involve bacteria, viruses, fungi, and parasites. Implementing effective food safety procedures will reduce the likelihood of contamination and mitigate the effects of contamination that may have occurred throughout the entire meat production chain, from farm to table (Wahyono & Utami 2018). In this regard, a survey was conducted among the population of Kerala to understand consumer preference of meat species, frequency of consumption, knowledge about food safety and HACCP, reason for preference of meat etc. This data will help in further improvement in meat production and will provide an understanding regarding consumer preferences and thereby the growth of the meat industry can be channeled in the right direction.

MATERIALS AND METHODS

The present study was done to analyse the consumption pattern of meat in the state of Kerala. Since Kerala had a majority of meat eating population, the state was best suited to conduct the study. The primary data was collected through google form, which was sent to one hundred and fifty people in Kerala, out of which fifty responded. The well-structured pre-tested interview schedule was prepared in consultation with the subject matter specialist and published literature. The collected data was organised accordingly and the editing, coding and tabling were done as per standard protocol. The collected data were analysed using conventional simple frequency and percentage.

RESULTS AND DISCUSSIONS

The survey was responded to by fifty people, out of which 46 percent were females and 54 percent were males. The average age of the respondents was 27.78, with the minimum and maximum ages being 21 and 35 years, respectively. Forty-four percent of them were graduates, 48 percent were post-graduates, 2 percent were PhD qualified, and 6 percent studied until 12th grade. Sixty percent of the respondents resided in rural areas, and 38 percent resided in urban areas (Table 1).

Table 1: Background information of the respondents.

Variables	Response	Frequency	Percentage
Gender	Female	23	46.00
	Male	27	54.00
Education	Till 12 th	3	6.00
	Graduate	22	44.00
	Post graduate	24	48.00
	PhD	1	2.00
Area of Residence	Rural	31	62.00
	Urban	19	38.00

Similar to previous studies, (Kiran *et al.*, 2018), chicken was found to be the most preferred meat (58 per cent), beef/carabeef was preferred by 20 per cent, mutton/chevon by 12 per cent and pork by 8 per cent. A significant share of these people thought that taste was the deciding factor in choosing preference, which was similar to the results obtained by Reddy and Raju (2010). Majority preferred fresh meat (92 per cent) over packed meat (8 per cent) and 60 per cent of the respondents preferred traditional meat over processed meat. This was contrary to the study conducted by Talukder *et al.* (2020), who found that a majority preferred processed meat in North India. Sixty per cent of the respondents consumed meat every 1 – 3 days, 28 per cent consumed meat once in a week, 6 per cent consumed meat daily and 4 per cent consumed meat on special occasions. A major share (68 per cent) of the respondents have heard about processing of meat and hot processing methods are preferred by a majority (76 per cent). Some of the processed meat products they listed included sausages, cutlets, bacon etc. Fifty per

cent of the respondents thought that the meat they consume is not hygienically processed (Table 2). Contrary to the study conducted by Sahu *et al.* (2023), many (76 per cent) were aware of FSSAI acts and regulations regarding meat production. This could be due to the fact that most of the respondents were well qualified educationally. Nevertheless, most of them (66 per cent) did not think that the shop/retail outlet from where they purchased meat was FSSAI or HACCP certified. A majority (56 per cent) were unaware of the government policies regarding meat products and transport. This point to the need of awareness and extension education. However, ninety per cent of the respondents agreed that improper disposal of slaughter waste was a potential source of pollution (Table 3). In addition, the waste from poultry and slaughterhouses is a breeding ground for diseases that can infect both humans and other animals. To stop the spread of infections after animal slaughter, there is an urgent need for a safe and efficient disposal procedure (Mozhiarasi & Natarajan 2022).

Table 2: Preference of meat and meat products.

Variables	Response	Frequency	Percentage
Most preferred meat to consume	Beef/Carabeef	10	20.00
	Chicken	29	58.00
	Mutton/Chevon	6	12.00
	Pork	4	8.00
	Fish	1	2.00
Preferred type of meat	Packed	4	8.00
	Fresh meat	46	92.00
Preferred portion of carcass	Breast	14	28.00
	Leg	4	8.00
	Wings	11	22.00
	Whole	21	42.00
Frequency of meat consumption	1-3 times a week	31	62.00
	Everyday	3	6.00
	On special occasions	2	4.00
	Once in a week	14	28.00
Which processed meat product is preferred	Traditional products	30	60.00
	Fast food	20	40.00
Which traditional meat product do you prefer	Fry	23	46.00
	Roast	14	28.00
	Varutharacha curry	13	26.00
Common processing techniques preferred	Hot processing	38	76.00
	Cold processing	12	24.00
Will you prefer the branded outlets (KFC, McDonalds) over traditional meat market	Branded outlets (KFC/McDonalds)	10	20.00
	Traditional meat market	40	80.00
Why do you prefer Goat/Sheep/Poultry/Pork meat	Tastier	29	58.00
	Cheaper	5	10.00
	Easy access	6	12.00
	Nutritious	10	20.00
Do you think Goat/Sheep Meat/Poultry/Pork you consume is hygienically processed	Yes	24	48.00
	No	26	52.00
Have you heard of processed meat products	Yes	34	68.00
	No	16	32.00
Do you have any knowledge about age group of poultry affecting taste of meat	Yes	28	56.00
	No	22	44.00

Table 3: Knowledge about food safety systems.

Variables	Response	Frequency	Percentage
Are you aware of Food Safety and Standards Act (FSSA) in meat production	Yes	38	76.00
	No	12	24.00
Do you think the shop/retail outlet from where you purchase meat is FSSAI registered or HACCP certified	Yes	17	34.00
	No	33	66.00
Do you think meat cooked at home destroy all the microbes from meat	Yes	36	72.00
	No	14	28.00
Are you aware of humane slaughter method	Yes	39	78.00
	No	11	22.00
Are you aware about Indian Government policies for meat products and transport	Yes	22	44.00
	No	28	56.00
Are you aware that improper disposal of slaughter house waste is a potential source of pollution	Yes	45	90.00
	No	5	10.00
What is your consideration to purchase raw meat	Freshness	39	78.00
	Healthy/Low fat	5	10.00
	Cost	6	12.00

CONCLUSIONS

The study for assessing consumer preference for meat products in Kerala showed that irrespective of age, education and area of residence, chicken was the most opted meat. Fresh meat was preferred by most of the respondents and many consumed meat every 1 – 3 days. Hot processing of meat is liked by many and products like sausages, cutlets, bacon etc. were the common processed products that were consumed by the respondents. The respondents were aware of FSSAI rules, but they thought that the shops from where meat was purchased did not have any such certification.

The rapid economic growth of the world has hastened the processes of industrialisation and urbanisation, boosted family income, and altered people's views towards meat consumption. The eating habits of consumers have evolved, and per capita consumption of beef and poultry meat has increased. Consumers' concerns about food safety are growing, but because they lack the information to recognise meat safety issues, it is important to assist them in making informed judgments.

FUTURE SCOPE

The meat industry in India has a promising future with the growing demand for meat products driven by factors such as increasing population, urbanisation, and changing dietary preferences. As consumer awareness and purchasing power rise, coupled with advancements in meat processing technologies and infrastructure, the industry has the potential for significant growth, both in domestic consumption and export opportunities and this study will help in analysing the market trends.

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Conflict of interest. None.

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