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Consumer demand and acceptance for processed meat in Kerala: A pilot study

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Abstract

This study investigated consumers' attitudes and purchase intentions towards processed meat products sold in major cities of Kerala. Although processed meat is an emerging technology in the present era, about 16.5% of the respondents were unaware of processed meat. However, 61.8% expressed their willingness to use processed meat when it is available in retail markets. Among various processed meat products sold in Kerala, respondents favored ready-to-cooked meat products (61.5%), minced products (27.8%), smoked products (25.6%), salted/cured products (25.2%) and canned products (16.8%). The study revealed that 77.3% of the respondents preferred fresh meat, while frozen and chilled meat was preferred by 6.1% and 4.9% of the customers, respectively. However, no such preference was shown by 11.7% of the respondents. Preference for meat was attributed to concerns related to quality (71.8%), food safety (56%) and reliability of meat shops (21.7%). The study indicated that 38.2% of the respondents preferred roadside/local butchers, while 66% favored meat markets and other stalls for meat purchases. The COVID-19 pandemic has negatively affected the meat consumption behaviour of 39.5% of respondents. The disrupted supply chains, fears of meat-borne transmission of COVID-19, and the financial crisis were the plausible reasons recorded by 27.8%, 9.4%, and 18.4% of respondents, respectively. This study provides valuable insight for further product development and optimization of marketing strategies for innovative processed meat products.

Keywords: Processed meat, consumer demand, meat consumption pattern, red meat, Kerala, India, COVID-19

Introduction

Meat food products subjected to drying, curing, smoking, seasoning, flavouring, freezing or any other method akin to the above methods are called processed food (Kiran *et al.*, 2018) [2]. The meat consumption pattern of a population depends mainly on culture, tradition, and level of urbanization (Devi *et al.*, 2014, Livestock Census, 2013) [1, 4]. This study has a good impact as Kerala has a whopping non-vegetarian population of 97.4% (India Today, 2021). Consumer preferences regarding meat quality may be affected by higher disposable income, urbanization, favourable demographic shifts, improved transportation, and consumer perceptions (Kiran *et al.*, 2018) [2].

Objectives of the study

There have been limited studies on consumer acceptance of processed meat in Kerala, and knowledge of consumer attitudes towards processed meat is essential for setting up tailored meat marketing systems. Thus, the study's objective was to assess consumer demand and factors affecting the acceptability of processed meat among consumers in major cities of Kerala.

Materials and Methods

A well-structured pre-tested questionnaire prepared (Table 1) in Google Forms was circulated through personal emails and public platforms like WhatsApp to analyze the consumer demand and acceptability of processed meat in Kerala, and the questionnaire was prepared in such a manner that all questions were made mandatory so that respondents attempted all the questions.

Table 1: Questionnaire

Sl. No.	Questions	Options
1.	Your district	Thiruvananthapuram/Ernakulam/Kozhikode/Others
2.	Your age group	Below 13/13-19/20-30/31- 45/46- 60/Above 60
3.	Sex	Male/female/others (Specify)
4.	Educational background	Below 10 th level/below 12 th /Degree/Postgraduation/Doctorate
5.	Have you heard about Processed meat	YES/NO
6.	Willingness to purchase processed meat	YES/NO
7.	What type of processed meat is preferred:	Minced/Canned/Smoked/Salted OR cured/Ready to cook meat products/Others (Specify)
8.	Which meat is more preferred (as processed meat)	Chicken/Beef/Duck/Pork/Chevon/others
9.	Preferred meat type	Fresh meat/chilled meat/branded frozen meat/No preference
10.	Reason for preference of meat type	Quality concerns/Food safety concerns/Reliability of shops or companies/Others (Specify)
11.	From where meat is purchased	Roadside butchers/Meat markets/Supermarket/Frozen meat from meat shops/Branded meat from authorized outlets/Meat from Govt shops
12.	Factors affecting meat consumption	Price/Income/Nutritional quality/flavor/dietary habit/safety eating quality/fear of lifestyle diseases occurring due to overconsumption of meat/afraid of disease transmission from meat/fear about red meat
13.	Does COVID-19 affect the meat consumption pattern	YES/NO
14.	How COVID -19 affected consumption pattern	less availability of meat/fear of COVID-19 transmission/financial crisis
15.	After COVID-19 is there any change in pattern	Turned to processed and frozen meat rather than fresh meat/Purchasing only from registered meat shops or packed meat from hypermarket rather than from local butcher shops/More precautionous regarding safety concerns

Results

A total of 309 responses were received, including 155 men and 154 women. The district-based responses were led by Thiruvananthapuram (35.6%), followed by Kozhikode (13.6%), Ernakulam (10.7%), and other districts accounted for 40.1%. Respondents' educational background was below 10th level – 0.6%, 12th level – 4.2%, graduate level – 62.1%, PG level – 29.4% and PhD level – 3.6%. In this study, 76.4% of respondents were in their 20s to 30s, the future generation, so these study results will significantly impact modelling future marketing strategies.

In the case of processed meat, 83.5% of the respondents were aware of it. In comparison, 16.5% were unaware of processed meat, and acceptance of processed meat was attributed to good taste (86.9%). However, 13.1% responded that there was a slight change in flavour, especially in duck and pork meat, which might be due to the gelatinization of fat during the

scalding process. There were concerns regarding the expiry date of processed meat. It was noted that most respondents would buy in the first three months of manufacture (80.6%) and 10.1% up to 6 months, and 9.3% were ignorant about processed meat's expiry date. Consumer preference for processed meat types was in the order chicken (39.6%), Beef (30.1%), Pork (14.7%), and Chevon (12.5%), and the least preference was for duck (3.1%). Among various processed meat products sold in Kerala, ready-to-cooked meat products were favoured by 61.5%, minced products by 27.8%, smoked products by 25.6%, salted/cured products by 25.2%, canned products by 16.8% and 7.11% have no such preferences (Fig.1). Factors affecting the consumption of processed meat include price (56.6%), food habit (52.4%), nutritional quality (48.9%), fear of lifestyle diseases (35.9%), concern about zoonotic disease transmission (14.6%) and apprehensions about the side effects of red meat (12%) (Fig.2).

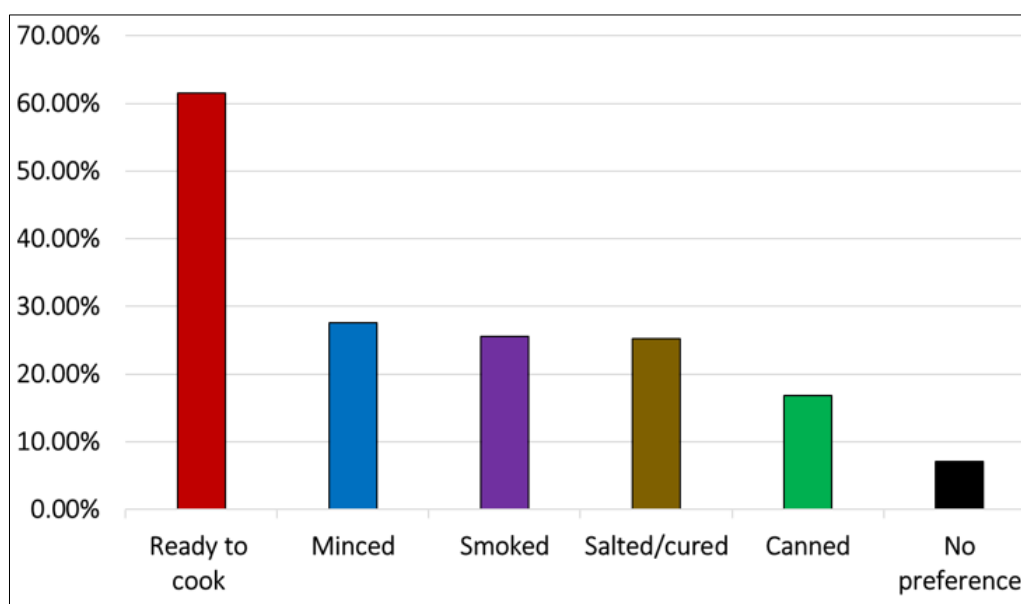


Fig 1: Consumer preference for processed meat products

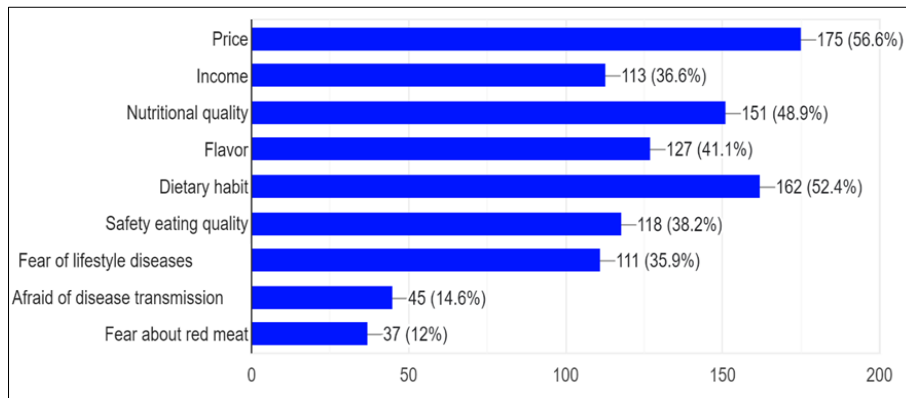


Fig 2: Factors affecting consumption of processed meat

This study revealed that 77.3% of the respondents prefer fresh meat over frozen (6.1%) and chilled meat (4.9%) (Fig.3), and this preference for meat type was attributed to concerns related to quality (71.8%), food safety (56%) and reliability of meat shops (21.7%). However, no such preference was shown by 11.7% of the respondents. The study indicated that 38.2% of the respondents preferred roadside/local butchers, and 66% favoured meat markets or other stalls. Among meat stalls, 26.9% opted for supermarkets, while 16.2%,12.3% and 12.9% authorized meat outlets, frozen meat from shops and government-owned meat shops respectively (Fig.4).

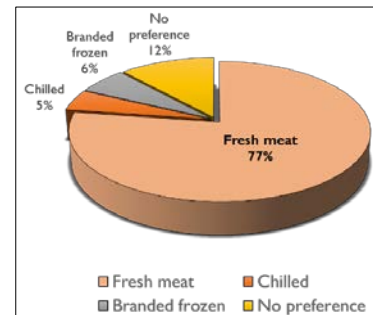


Fig 3: Meat type preference

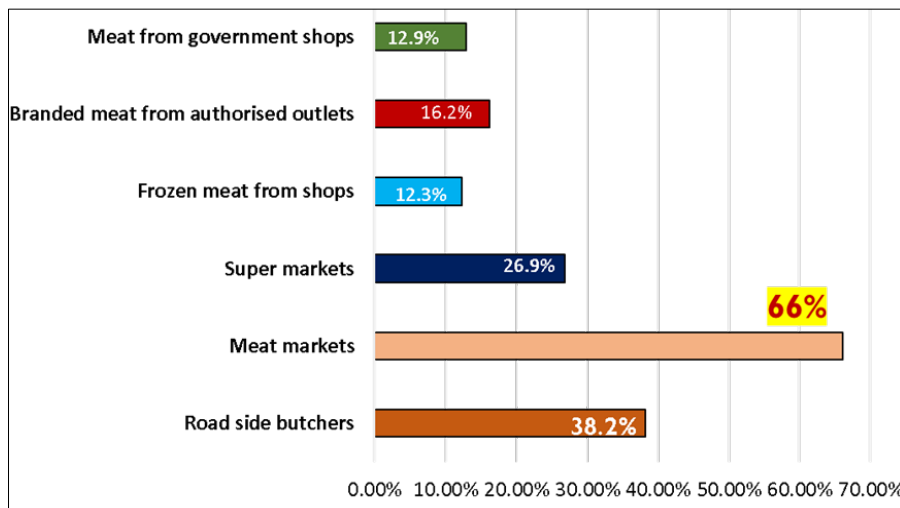


Fig 4: Meat purchasing trend by consumers

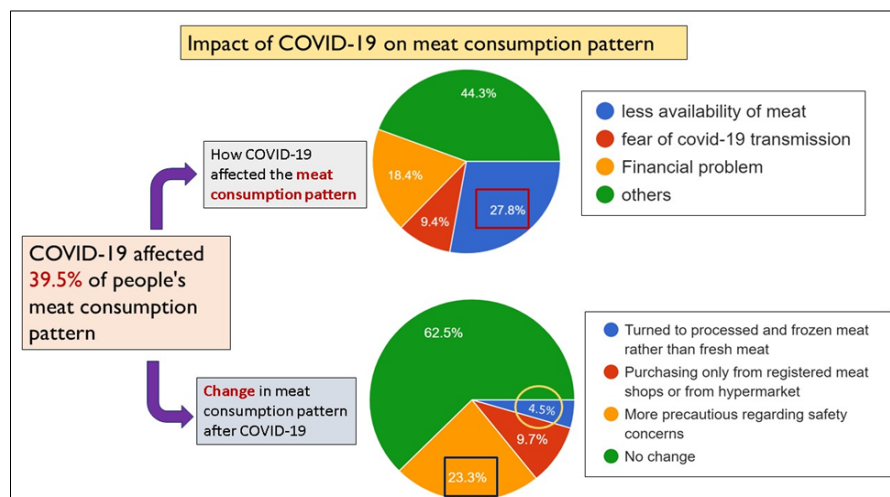


Fig 5: Impact of COVID-19 on Meat consumption Pattern

Discussion

Processed Meat consumption is affected by many factors, such as price, income, nutritional value, flavour, dietary habits, safety, eating quality, and the convenience of purchase (Wu and Xiao, 2013; Liang *et al.*, 2014; Zhang *et al.*, 2014; Mao *et al.*, 2016) ^[10, 3, 11, 5]. Only 16.5% were unaware of processed food in Kerala, contrary to Bengaluru; surprisingly, about 66.9% of correspondents were unaware of processed meat available in the market (Kiran *et al.*, 2018) ^[2] and product appearance was used as a predictor of eating quality (McEachern *et al.*, 2002) ^[6]. In a study conducted in west of Scotland found that food consumption differences are largely associated with social class and mediated not by low income but by educational disadvantage (Mullen *et al.*, 2000), and in our study only 0.6% peoples was below tenth level, so this study have no disadvantage based on educational background of consumers. A study conducted in Central England, the respondents reported that organic and ethical issues and convenience were important factors influencing their food choices (Pettinger *et al.*, 2004) ^[8], in our study also 61.8% expressed their willingness to use processed meat when it is available in retail markets, which states its convenience to use readily. The misconception regarding the fear of Indian red meat should be adequately addressed as it contains less fat and comparatively more unsaturated fatty acids.

Food safety has emerged as a significant global issue in this era with international trade and public health implications (Kiran *et al.*, 2018) ^[2]. Unsafe food is reported to cause more than 200 diseases due to harmful bacteria, viruses, parasites, or chemical substances, including simple diarrhoea and deadly cancers (Kiran *et al.*, 2018) ^[2]. In this study, meat products from processed chicken meat are greatly accepted by consumers. Other studies revealed that chicken meat is preferred in India due to its affordable price, taste, nutritional quality, health conditions, fat content percentage, and ease of preparation (Devi *et al.*, 2014., Kiran *et al.*, 2018) ^[1, 2] but in study conducted in Delhi and Hyderabad showed that consumers of both the cities prefer mutton over poultry meat owing for its perceived nutritional value and health benefits (Suresh *et al.*, 2016) ^[9].

Conclusion

The survey revealed an increasing trend of consumers towards processed meat in major cities of Kerala. This study provides insight into the felt need of consumers and the need for solutions to meet their demands in future. Lack of awareness is the stumbling block in the acceptability of processed meat. Children's and college-level students should be aware of processed meat, its safety and hygienic preparation procedures. COVID-19 improved the acceptability of processed meat to a large extent and increased the online marketing of processed meat. This study provides valuable insight for further product development and optimising marketing strategies for innovative processed meat products.

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