

IMPACT OF COVID-19 LOCKDOWN ON THE SALE OF CHICKEN MEAT IN SMALL RETAIL MEAT SHOPS IN CHENNAI, TAMIL NADU, INDIA

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ABSTRACT

A questionnaire survey was conducted to assess the impact of the COVID-19 lockdown on small chicken meat shops in Chennai city, Tamil Nadu, India. Out of 50 retail chicken shops surveyed, 84% shops were operated by the owners, while 16% shops were operated in partnership mode. The chicken meat sold by majority of the small retail chicken meat shops (88%) in Chennai was 51-70 kgs of chicken meat per day before the COVID-19 outbreak. Based on single most majority respondents, there was a 60.25% decrease in chicken meat sales during COVID-19 lockdown compared to pre-COVID-19. The hygienic status of small chicken meat shops in Chennai improved significantly (94%) post-COVID-19. The government should draft a policy to support the small retail chicken meat shops especially during pandemic lockdown period by providing appropriate logistics, training, and micro-loans to manage the sale of chicken meat following pandemic precautions.

Keywords: COVID-19, pandemic, lockdown, poultry industry, meat shop

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INTRODUCTION

Poultry is the only sector in agriculture steadily growing at a healthy rate of 7 - 8% in layers and 15% in broilers since last 2 decades (Chatterjee and Rajkumar,

2015). The impact of COVID-19 has affected social and economic quality of life in many ways especially livestock production sector at global, regional and national levels (Marchant-Forde and Boyle, 2020). In India, the poultry sector produces 25 crore eggs per day and 1.3 crore birds per day, and is one of the primary agricultural sectors providing employment and livelihoods. Currently the poultry sector contributes ₹1.2 lakh crores to the country's Gross Domestic Product (GDP) (Sharma, 2020). Approximately 6.5 million people are employed in the poultry sector, of which 80 percent work in farms, and the rest in associated activities like

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feed, pharmaceuticals, equipment's, and other support services (Sasidhar and Murali, 2015).

During the pandemic, people were apprehensive about consuming poultry products due to rumours of COVID-19 transmission through chicken meat and eggs spread on social media, and there were several news reports in India on desperate disposal of broiler chickens by farmers and downsizing of hatchlings by hatcheries (Ganesh *et al.*, 2021). The lockdown impacted the chicken wet market, and the livelihoods of small chicken retailers in Tamil Nadu. Chicken prices also fell from Rs. 180/-per kg to Rs. 50/-per kg across the country and Tamil Nadu state alone has suffered nearly 600 crore losses due to the COVID-19 pandemic (Nazeeruddin, 2020). A number of studies have looked at the epidemiological, demographic, and clinical aspects of COVID-19, but few have considered the economic impact (Noman *et al.*, 2022). The present study was aimed to analyse the impact of Covid-19 lockdown on chicken meat sale in small meat retail shops in respect of broiler chicken retail stores in selected areas of Chennai city, Tamil Nadu. The study has been approached from the standpoint of the need for chicken retailers to improve their business during the pandemic situation in Chennai.

MATERIALS AND METHODS

A survey was conducted in May, 2022 (14th May, 2022 to 17th May, 2022) among 50 small chicken shop retailers who sells 50 to 70 kgs of chicken per day from

different areas (Purasaiyakkam, Perambur, Moolakadai, Mathur, Manali, Madhavaram and Kodungaiyur) of Chennai city, Tamil Nadu, India (Table 1). An easy-to-access chicken retail shop was randomly selected from the Translational Research Platform for Veterinary Biologicals (TRPVB) research Unit. Data were collected through face-to-face interview to assess the impact on their business strategies and marketing during the COVID – 19 lockdown and post COVID – 19 on small retail chicken shops. The questionnaire-based survey was widely filled by the respondent which contained a total of 31 questions which were divided into two sections viz., section 1 contains the general questions on the profile of the chicken shop, section 2 contains the chicken shop retailers selling pattern, selling price and economic gain/loss were assessed based on daily sale of chicken meat. General questions on profile of the retailers such as age, education, gender, and ownership status of the small chicken retail shop were also recorded. The retail shops were selected randomly. Data were analysed by statistical tools using Microsoft Excel 10. QGIS is used for mapping the sampled locations (Fig.1).

RESULTS AND DISCUSSION

PROFILE OF THE SHOP AND SHOP OWNERS

The number of shops surveyed in each location, as well as their ownership, are shown in Table 1. The education level of majority of the shop owners was higher secondary education (44%) followed

by primary education (36%), secondary education (12%) and undergraduate level (8%) (Fig.2). Hence, majority of the small chicken meat retail shops in Chennai city are mainly being run by people with higher secondary and primary educational qualifications. This business seems to be a less preferred destination for the college educated people as only 8% of the shop owners are with under graduate qualification. Among the participants, 86 % of them were males (Fig.3). Fifty percent of the participants took part in this survey falls in the age group of 41 to 50 years followed by 31 to 40 years age group (28 %) (Fig.4). The results suggest that the small chicken meat retail shops in Chennai, Tamil Nadu state is dominated by male gender. The aged and male dominant business were also observed in the chicken retail market by many authors (Ngore *et al.*, 2011; Thakur *et al.*, 2014; Junaidu *et al.*, 2015; Umar *et al.*, 2015). According to Bafanda *et al.*, (2017), most of the meat handlers were from middle aged group and only males were involved in this profession. But interestingly it was found that 14% of women is running chicken retail shops in Chennai, Tamil Nadu, India. Among the respondents, 16 % of them were running the shop in partnership mode and 84% owned the retail shops. Advantage of running small chicken retail shops in partnership mode is low risk of heavy loss as they only face a nominal decrease in income (Kolluri, 2020). Among the shop surveyed in this study, 88% of the shops sold only chicken meat than mixed meat (12%). The reason for the above may be due to increased demand for chicken meat when compared to other types of meat. The study found that

in India, chicken meat (50%) was preferred over mutton (25%) and fish (25%) (Thammi Raju and Suryanarayana, 2005).

IMPACT OF CHICKEN MEAT SALE

During the survey 76% of the participants responded that the sale of chicken meat was excellent before the COVID-19 pandemic (Fig.5). Majority of the participants (52%) opined that they sold 51 to 60 kgs of chicken meat per day followed by 36% of the participants sold 61 to 70 kgs, and 12% of the participants sold above 70 kgs of chicken meat prior to the COVID-19 pandemic. The majority (88%) of the small retail chicken meat shops in Chennai sold 51-70 kgs of chicken meat per day before the COVID-19 outbreak. But during the COVID-19 pandemic 62% of the participants revealed that they sold only 10 to 20 kgs of chicken meat per day followed by 20% of them sold 21 to 30 kgs and 14% of them sold 31 to 40 kgs and 4% of them sold 41 to 50 kgs of chicken meat per day (Fig.6).

The difference in the sale of chicken meat was calculated from the single majority respondent percentage before and during COVID-19. Based on the single most majority respondents (52%), maximum of 60 kg chicken meat was sold per day prior to COVID-19, which is calculated as 1560 kgs per day by 26 random shops (50 participant shops X 0.52 X 60 Kg = 1560). Based on the single most majority respondents (62%), maximum of 20 kg chicken meat was sold per day during COVID-19 lockdown, which

is calculated as 620 kgs per day by 31 random shops (50 participant shops X 0.62 X 20 Kg = 620). There was 60.25% reduction in the sale of chicken meat per day in the small retail chicken meat shops during COVID-19 lockdown when compared to pre-COVID-19 based on single most majority respondents. It clearly showed that chicken meat sales were significantly reduced during COVID-19, when compared to pre-COVID-19 days. The reduction in sale of chicken meat by small retail chicken meat shops could be attributed to rumours, transportation problems, lack of supply chain, lack of labour shortage due to lockdown and time restrictions on sale (Farrell *et al.*, 2020; Blazy *et al.*, 2021; Cariappa *et al.*, 2021; Popescu and Popescu, 2021; Palouj *et al.*, 2021 and Pallavi *et al.*, 2023). Kumar *et al.* (2020) observed that there was 58.7% reduction in chicken meat sales due to the COVID -19 lockdown, which might have reduced the income to the respondents' family. Their major customers were regular buyers (52%) followed by restaurants and hotels (24%), family functions (12%) and small meat product vendors (12%) (Fig.7). COVID-19 restrictions on restaurants, hotels and family functions could have played a great role in the reduction in chicken meat sale by the small retail chicken meat shops.

IMPACT OF PANDEMIC ON SALE OF CHICKEN MEAT

The percentage sale of chicken meat was reduced due to the lack of transportation (36%), rumours about the spread of COVID – 19 through chicken meat (32%), complete lock down (20%) and reduced sales time

(12%) (Fig.8). Due to lack of transportation and rumours about chicken consumption causing COVID-19, consumers reduced the consumption of chicken meat (Pallavi *et al.*, 2023). Among the surveyed shops, 92% of them recorded that the pandemic affected the chicken supply chain, 68% of them reported loss in the profit and 32% of them reported no profit (32%) during the COVID-19 lockdown. Majority of the shop owners (82%) reportedly closed the shops temporarily and stopped selling chicken. Several parts of India recorded a reduction in the consumption of chicken meat due to the rumours that poultry birds were likely carriers of SARS-CoV2 virus (Mahmud, 2020). The clarifications issued by different agencies of late that eating chicken is quite safe, however, have been able to convince the consumers (Biswal *et al.*, 2020). During the first week of the lockdown, certain places saw a drop in the price of live poultry birds as low as Rs 10-30/kg, especially since the farmers were not prepared for such a unique situation of being cut off from the markets (Singh, 2020).

IMPACT OF SHOP HYGIENE AND UNSOLD MEAT

In poultry farms and retail outlets, improper biosecurity measures contribute to the occurrence of zoonotic infections (Abah *et al.*, 2019). Sanitation of equipment, housing, protective clothing for poultry workers, and maintaining personal hygiene in chicken meat shops are done to destroy disease agents (Conan *et al.*, 2012, Islam *et al.*, 2022). Surprisingly, the COVID – 19 radically changed the hygienic status of the

small retail chicken meat shops in Chennai when compared to the pre-pandemic because 94% of shop owners reported that they washed the market place and slaughter equipment twice daily. Maintenance of chicken meat shop hygiene and regular cleaning practices helped the shop owners to allay the fear of consumers about the spread of COVID – 19 (Fernandes, 2020). In addition, these practices enabled retailers to maintain and strengthen customer loyalty as well as to attract new customers who value for safety, hygiene, and product availability in a retail store. Most of the disease outbreaks (80%) in developing countries are caused by poor domestic and personal hygiene (Tambekar *et al.*, 2009; Al-Rifaa'i *et al.*, 2018). During COVID-19 lockdown 42 % of the small retail chicken shop owners did not procure chicken from farms and interestingly 80% of the shops reported that there were no unsold chicken and chicken meat. This was strongly accepted that shop owners would slaughter the chicken when the consumer needs it. During the reduced market demand 14% of them sold chicken as value-added meat products and 24% of them sold for lower market price to avoid financial loss and 6% of them used for self-consumption.

IMPACT OF MARKET DEMAND AND MARKETING

The market demand for chicken meat slightly increased in the beginning of May, 2020 (12%). There was a huge increase in market demand for chicken meat in June, 2020 (32%) compared to the middle of May, 2020 (22%) and middle of June

(26%). A meagre (8%) of the respondents recorded that after the COVID – 19, the demand of chicken meat was not improved (Fig.9). The post-COVID-19 lockdown further reduced the demand of the meat across the country due to several other logistic factors (Biswal *et al.*, 2020). The chicken shop owners adopted new strategies to increase the chicken meat sale like selling good quality hygienic clean meat (90%) to satisfy the customers (Fig.10). Promotional activities of the retailers played an important role in the selection of retail chicken shops by the consumers (Easwaran *et al.*, 2012). Increased biosecurity level (76%) at the market place, online marketing due to the time restriction by the government (24%) and introduced new offers (20%) were few other strategies adopted by the retailers to increase chicken meat marketing. Physical contact was quickly identified as a danger and, therefore, technology like digital marketing was considered essential for the continuity of retail commerce, such as electronic payments and online orders (Lopes and Reis, 2021). Among the surveyed chicken shop owners, 50% of them recorded that the market demand of chicken would be high in weekends when compared to Wednesday (46%) and Monday (4%). Interestingly 78% of the consumers do not prefer to buy frozen meat and 22% of them have shown interest to buy frozen meat during the COVID – 19 pandemics. The reason could be attributed to lack of awareness among the lower- and middle-income group consumers, fondness towards fresh meat, negative perception on frozen meat, and price of the frozen meat. Indian consumers generally prefer freshly slaughtered birds and the customers would

like to witness the live birds slaughtered in their presence even in a very unhygienic manner in the broiler retail stores (Easwaran *et al.*, 2012).

CONCLUSION

Based on the survey results, there was a significant reduction in chicken meat sales during the COVID-19 pandemic, in Chennai along with the temporary closure of small chicken retail shops. In the post-COVID-19 era, there have been several changes, including an increase in biosecurity and hygiene standards at shops, resulting in clean meat being sold, and small retailers participating in promotional activities such as online marketing and introducing new offers for improving chicken meat marketing. The government should draft a policy to support the small retail chicken meat shops especially during pandemic lockdown period by providing appropriate logistics, training, and micro-loans to

manage the sale of chicken meat following pandemic precautions. Curtailing the spread of rumours that potentially affect the trade and commerce is need of the hour and government should anticipate this anti-trade activity during pandemics and formulate appropriate strategies to counter it. Further, Government, NGOs and trade organizations can play a significant role in designing a suitable policy and strategy to bring back the chicken meat trade in right track in similar post-pandemic situations by involving all the stakeholders of poultry sector.

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Table.1. General profile of the selected chicken retail shop in Chennai city

S.No	Shop Location	No. of shops	Ownership of the shop	
			Self-owned	Partnership
1	Purasaiyakkam	11	09	2
2	Perambur	08	07	1
3	Moolakadai	04	04	0
4	Mathur	04	04	0
5	Manali	10	07	3
6	Madhavaram	09	07	2
7	Kodungaiyur	04	04	0
Total		50	42	08

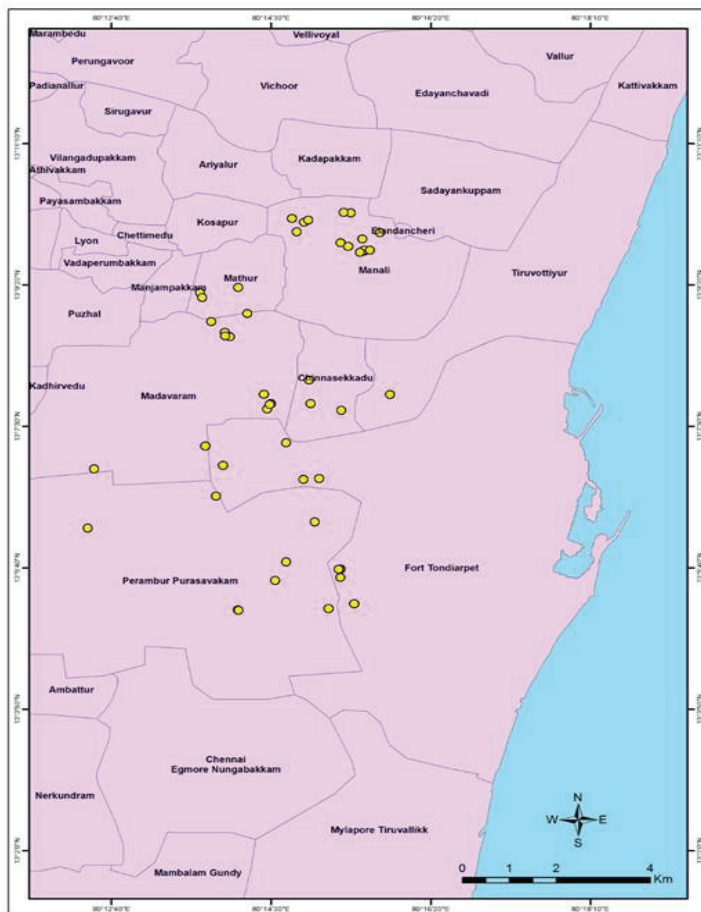


Fig.1. Map of Chennai city, Tamil Nadu showing locations of 50 small retail chicken meat shops surveyed in this study

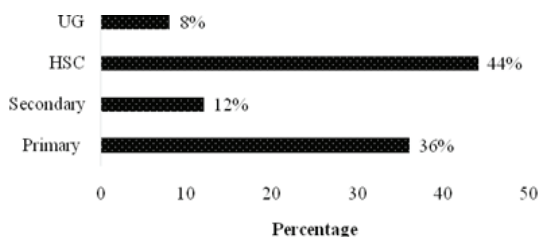


Fig.2. Educational qualification of the small chicken retail shop owners of Chennai city, Tamil Nadu

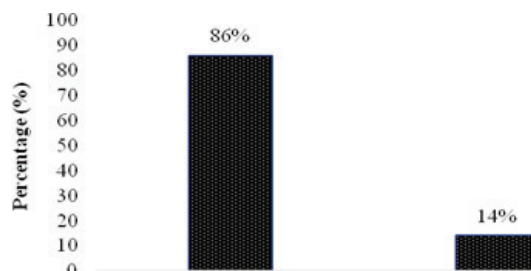


Fig.3. Gender of the small chicken retail shop owners of Chennai city, Tamil Nadu in percentage

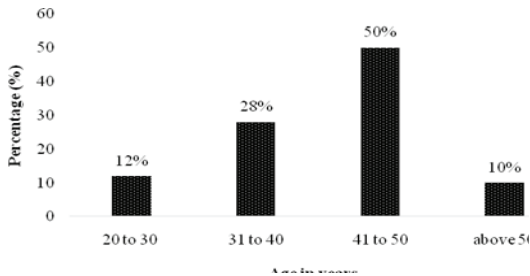


Fig.4. Age of the small chicken retail shop owners of Chennai city, Tamil Nadu

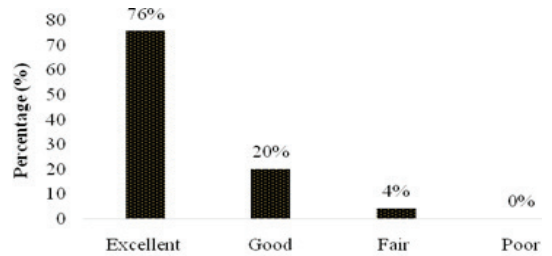


Fig.5. Qualitative sale of the chicken meat before COVID – 19 outbreaks in percentage by small retail chicken meat shops in Chennai, Tamil Nadu

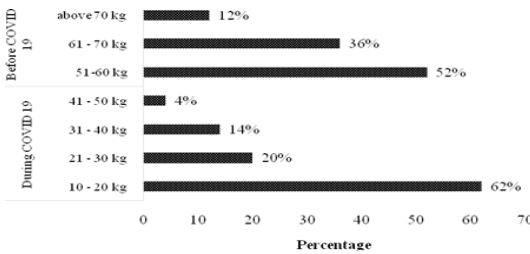


Fig.6. Percentage sale of the chicken meat per day prior to COVID – 19 and during COVID – 19 outbreaks in small retail chicken meat shops in Chennai, Tamil Nadu



Fig.7. Major chicken meat customers for small retail chicken meat shops in Chennai, Tamil Nadu

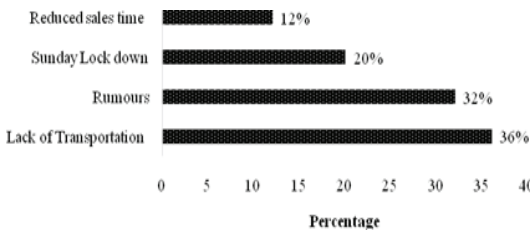


Fig.8. Impact on COVID – 19 pandemic period on sale of chicken meat in small retail chicken meat shops in Chennai, Tamil Nadu



Fig.9. Details on market demand for chicken meat during post COVID – 19 in small retail chicken meat shops in Chennai, Tamil Nadu

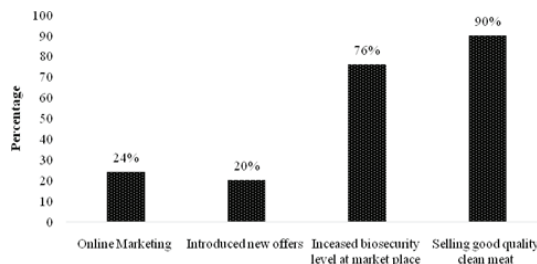


Fig.10. Strategies adopted by small retail chicken meat shops in Chennai, Tamil Nadu to increase chicken meat marketing during post-COVID-19

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