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Analysing Determinants of Household Broiler Chicken Meat Purchases amidst Social-Media Misinformation: A Tobit Study

Kathiravan, G. iD

Department of Animal Husbandry Statistics and Computer Applications, Madras Veterinary College, Tamil Nadu Veterinary and Animal Sciences University, Chennai – 600007 INDIA. Phone Number: +91-94441 07485.
Correspondence: drkathir@tanuvas.org.in

ABSTRACT

Indian poultry sector is a significant contributor to GDP. It is growing at 8-10% annually, reaching $22.97 billion in 2022 and is expected to reach $41.94 billion (10.18% CAGR) between 2023 and 2028. Misinformation on social media negatively impacted the broiler sector, driving down prices and consumption.
Objective: Using Tobit model, broiler purchases by Indian households during misinformation were analyzed.
Methodology: Data on demographics, socioeconomics and monthly chicken meat consumption were collected and analyzed from n=503 respondents.
Results: On average, males preferred broiler chicken, while females preferred native chicken. The potential impact of social media misinformation on women's choices and the influence on households with older people, who consumed significantly less compared to their counterparts, remains intriguing. Unexpectedly, households with better income and higher education purchased less broiler meat. Marital status, place of residence, cohabitation, and presence of children did not significantly affect the outcome. Muslim families purchased more broiler meat, and larger households consumed more. Frequency of consumption was important, with daily and alternate customers making larger purchases. Broiler meat purchases were negatively impacted by country chicken consumption. Amid social media misinformation, while a slight adverse impact on household broiler consumption may have occurred, it is notable that a significant portion of households (97.20%) continued to purchase chicken meat. broiler chicken, demonstrating the potential effectiveness of media-driven interventions in mitigating the impact of misinformation and reiterated the persistent preference for broiler chicken as a dietary protein option within the broader consumer demographic.
Conclusions: The Indian poultry industry is vital for food security and economic growth, so it is imperative to address social media-induced panic. Transparency, trust and accurate transmission of information are essential. To successfully address market challenges, stakeholders need to consider factors such as demographics and dietary preferences that influence consumer behavior.

Keywords: Chicken Meat; Social-media Misinformation; Household Consumption; Tobit; Censored model.

INTRODUCTION

The poultry sector in India has experienced remarkable growth compared to other segments within agriculture and allied industries. While the production of agricultural

crops has been increasing at a moderate rate of 1.5 to 2% per year, the production of eggs and broilers has been surging at a significantly higher rate of 8 to 10% annually. The poultry industry contributes approximately 1% to the total Gross Domestic Product (GDP) and 11.70% to the livestock GDP in India. The Indian poultry market is worth $22.97 billion by 2022 (DAHD, 2023). Contributions from the chicken meat and egg industries were 75.32% and 24.67%, respectively, and it is projected that the poultry industry market in India will increase at a compound annual growth rate (CAGR) of 10.18% from 2023 to 2028, bringing the total market value to $41.94 billion (IMARC-2023).

In fiscal year 2021, the gross value added (GVA) from poultry meat exceeded INR 1.44 trillion within India's livestock sector, marking a substantial increase compared to previous years. Consequently, the total GVA for meat products in 2021 surpassed INR three trillion. India ranks fifth in global broiler production and a half of the meat produced in India is poultry. Because it is affordable and widely available, chicken meat is preferred by the majority of the population as the main meat option. Over 85% of India's poultry meat is sourced from organized commercial farms, with the remaining percentage originating from backyard poultry, primarily in rural areas (DAHD, 2022). Within the commercial broiler production sector, major poultry companies employing vertically integrated operations contribute to approximately 60-65% of the total production output. Notably, the poultry sector presently provides employment opportunities to approximately 6 million small and medium farmers, along with approximately three million farmers engaged in backyard poultry.

According to the OECD-FAO Agricultural Outlook 2030, poultry meat is projected to account for 41% of the global meat protein supply by the end of this decade. The growth in income levels and urbanization has driven increased demand for poultry products, resulting in consistent consumption growth. Poultry meat is the fastest-growing segment in global meat demand, and India, as the world's second-largest developing country, is witnessing rapid expansion in its poultry sector. The presence of vertically integrated poultry producers has helped lower consumer prices by reducing production and marketing costs. Notably, 62% of all poultry meat consumption in India is concentrated in 15 major cities.

Chicken meat serves as a vital source of protein and essential vitamins and minerals, including iron, selenium, zinc, and various B vitamins, notably B12 (Ahmad *et al.*, 2018; Marangoni *et al.*, 2015; Sharma *et al.*, 2013). Notably, chicken meat presents numerous nutritional advantages; approximately half of its fat content comprises desirable monounsaturated fats, with less healthy saturated fats constituting only about one-third (Kralik *et al.*, 2018; Mir *et al.*, 2017). Furthermore, poultry meat is notably enriched with omega-3 fatty acids, prominently contributing to the provision of essential polyunsaturated fatty acids (PUFAs), particularly the omega-3 (n-3) fatty acids (Alagawany *et al.*, 2019; Kris-Etherton & Fleming, 2015; Pérez *et al.*, 2021; Thanabalan & Kiarie, 2021). Consequently, chicken meat enjoys widespread recognition as a healthy dietary choice, notably due to its absence of trans-fats, recognized contributors to coronary heart disease (Astrup *et al.*, 2020; Zeinab, 2021).

In the face of false social media-induced panic (targeting women, children and elderly), the Indian broiler industry confronted challenges, resulting in reduced chicken consumption

and prices, alongside diminished maize production and the influence of COVID-19 and lockdowns (Hafez & Attia, 2020; Kolluri *et al.*, 2021; Thaper, 2023). The poultry sector, which had enjoyed consistent growth driven by increasing consumer demand for protein-rich foods in the preceding two decades, suffered significant setbacks primarily emanated from a marked reduction in demand, attributable to a confluence of factors, including supply chain disruptions and apprehensions propagated through the dissemination of misinformation. During the period of 2019-20, various negative notions or misinformation about broiler chicken emerged, including claims that Covid-19 spreads through its consumption, that it triggers early puberty in girls, leads to cystic ovaries and irregular menstrual cycles in women, and reports of Coronavirus-infected chickens in Bangalore. In the above light, this study aims to analyse the determinants of household broiler chicken meat purchases amidst misinformation in India, employing the Tobit Model.

MATERIALS AND METHODS

Consumers' household monthly purchases of broiler chicken in India were studied using a structured and pretested online questionnaire. The questionnaire was exclusively administered to individuals residing in India who confirmed their consumption of chicken meat. This Google form survey was conducted through social media from April to May 2023. Upon meticulous examination, the final dataset incorporated responses from 503 individuals, among which 494 had purchased and consumed broiler chicken meat. In this study, a snowball sampling technique was utilized, with researchers and stakeholders serving as social media gatekeepers to promote the survey. Participants were required to meet specific inclusion criteria: residing in India, actively consuming chicken meat, being over 18 years old, and willingly engaging in and completing the online survey. Additionally, participants, regardless of gender, should either primarily or jointly share responsibility for food consumption decisions within the household, including food shopping and preparation, while also meeting the criterion of being an earning member (for males) or primary shopper (for females, if not earning).

Participants were prompted to indicate if they encountered any misinformation or misconceptions, particularly through social media or any other media channels, regarding broiler chicken. Various false claims, including the spread of Covid-19 through chicken consumption, its alleged role in triggering early puberty in girls, the association with cystic ovaries and irregular menstrual cycles in women, and reports of Coronavirus-infected chickens in India. Additionally, participants were encouraged to mention any other misconceptions they observed through these media platforms. Following this question, respondents were prompted to share their immediate reactions. Options included stopping consumption of chicken, reducing chicken purchases, switching to alternatives like quails or country chicken, continuing to consume broiler chicken without concern, adopting a vegetarian diet, or specifying other responses. Regarding the reduction in broiler chicken consumption, participants were asked to indicate the monthly change in quantity for their entire household before and after the incidents, ranging from no change to specific weight categories. In order to combat these misleading beliefs, participants were invited to outline the strategies they employed. They were encouraged to choose from various methods they

utilized, including seeking information from friends, government agencies, veterinarians, newspapers, television, advertisements, poultry federations, or any other approaches they employed to address the misinformation surrounding broiler chicken consumption. Extensive data encompassing demographic, socioeconomic attributes and the monthly quantities procured were collected online.

The statistical and econometric analyses of the data were performed using Stata®16.0. In the data analysis of broiler chicken meat purchase, both descriptive and inferential statistics were employed. Socio-economic characteristics of the respondents were reported using simple descriptive statistics and a hybrid model, the Tobit model, based on the cumulative normal distribution function (McDonald & Moffit, 1980; Tobin, 1958), was used to examine the determinants of household monthly purchase of broiler chicken meat. In contrast to ordinary least squares (OLS) regression, the Tobit model permits the handling of a continuous dependent variable subject to censoring (Yakubu *et al.*, 2009). It provides the flexibility to define lower (or upper) thresholds for censoring the regression while retaining the linear assumptions required by linear regression. The Tobit model with robust standard errors was employed to obtain more accurate parameter estimates, enhance model fit, and ensure more reliable statistical inferences, given that the residuals did not conform to a normal distribution under default standard errors (Amore & Murtinu, 2021; Wang & Griswold, 2017; Wilson *et al.*, 2020).

The Tobit model was used to analyse the relationship between the non-negative household monthly meat purchase as dependent variable (Yi) and demographic, socio-economic and other attitudes as independent variables (Xi). This model was employed as the dependent variable was censored at 0.5 kg. The model assumes the presence of an unobservable latent variable (Y*), linearly related to the Xi variables through i coefficients, with an added normally distributed error term (Ui) capturing random influences on this relationship. The observed variable (Yi) equals Y* if Y*>0 and is assumed to be zero otherwise. Maximum Likelihood Estimation (MLE) was used to estimate βi, as OLS would produce biased and inconsistent results (Gujarati and Porter, 2009).

The model can be expressed as,

$$Y = X\beta + u, \; if \; \beta'X + u > 0;$$
$$= 0, \; \text{Otherwise. Such that the residual,} \; u \sim N\left(0, \sigma^2\right).$$

Where Y, $(n \times 1)$ is vector of dependant variable; $b\,(k \times 1)$ is vector of unknown parameters; and X is vector of exogenous variables.

RESULTS AND DISCUSSION
Household broiler chicken meat purchase pattern

Monthly household purchases of broiler chicken meat along with native chicken meat (for reference), measured in kg, within different demographic categories are presented in Table 2. Broiler chicken meat purchasing patterns by gender were analysed. Men purchased an average of 3.34 kg of broiler chicken meat per month, while women purchased an average of 3.37 kg. However, these differences were not statistically significant, supporting

Table 1. List and levels of variables used in the Tobit model.

Explanatory variable	Category	Specification	Variable in model
Gender	Male; Female	1 - If Male; 0 - If otherwise	X_1
Age Group	26 years; 26 - 35 years; 36 - 45 years; 46 - 60 years; 60 years	1 - If 26 years; 2 - If 26–35 years; 3 - If 36–45 years; 4 - If 46–60 years; 5 - If 60 years	X_2
Monthly Income Brackets (INR)	≤ 10000; 10,001 - 30,000; 30,001 - 60,000; 60,001 - 90,000; > 90,000	1 - If ≤ 10000; 2 - If 10,001 - 30,000; 3 - If 30,001 - 60,000; 4 - If 60,001 - 90,000; 5 - If > 90,000	X_3
Educational levels	Primary School; Secondary School; Collegiate	1 - If Primary; 2 - If Secondary; 3 - If Collegiate	X_4
Marital status	Married; Unmarried (single)	1 - If Married; 0 - If otherwise	X_5
Habitat (living area)	Urban; Rural	1 - If Urban; 0 - If otherwise	X_6
Cohabiting with family	Yes; No	1 - If Yes; 0 - if otherwise	X_7
Senior citizens at home	Yes; No	1 - If Yes; 0 - If otherwise	X_8
Children at home	Yes; No	1 - If Yes; 0 - If otherwise	X_9
Household size	Count	Count	X_{10}
Religion[a]	Christian; Hindu; Muslim; Others	1 - If Hindu; 0 - If otherwise	X_{11}
		1 - If Muslim; 0 - If otherwise	X_{12}
		1 - If Others; 0 - If otherwise	X_{13}
Chicken consumption[b] (frequency)	Daily; Alternate Days; Twice Weekly; Weekly; Fortnightly; Occasionally (randomly)	1 - If Daily; 0 - If otherwise	X_{14}
		1 - If Alternate Days; 0 - If otherwise	X_{15}
		1 - If Twice Weekly; 0 - If otherwise	X_{16}
		1 - If Weekly; 0 - If otherwise	X_{17}
		1 - If Fortnightly; 0 - If otherwise	X_{18}
Quantity of Native Chicken Purchased (kg/ month)	Continuous in kg	Continuous	X_{19}

Reference categories: [a] - Christian; [b] - Occasionally (randomly).

Table 2: Household monthly purchase of broiler and native chicken meat (kg).

Characters	Category	N	Broiler Chicken Quantity (kg./ month)				Native Chicken (kg/month)
			Mean	SD (σ)	Test Statistic	p	
Gender	Male	376	3.34	1.428	t=0.185	0.854	1.50
	Female	127	3.37	1.413			1.57
Age Groups (years)	26	61	3.48	1.523	F=1.426	0.224	1.71
	26-35	103	3.33	1.562			1.49
	36-45	116	3.43	1.416			1.54
	46-60	178	3.38	1.289			1.45
	60	45	2.89	1.449			1.50
Income Brackets (INR)	≤10000	44	2.89	1.385	F=3.322	0.11	1.79
	10,001-30,000	75	3.77	1.713			1.70
	30,001-60,000	96	3.43	1.513			1.54
	60,001-90,000	103	3.39	1.330			1.38
	> 90,000	185	3.23	1.261			1.47
Education	Primary	13	4.00	2.000	F=1.453	0.235	1.75
	Secondary	18	3.44	1.617			1.56
	Collegiate	472	3.33	1.396			1.51
Marital status	Married	412	3.35	1.443	t=0.094	0.925	1.53
	Unmarried	91	3.36	1.338			1.46
Habitat (living area)	Urban	421	3.40	1.420	t=1.673	0.095	1.48
	Rural	82	3.11	1.423			1.74
Cohabiting with family?	Yes	437	3.33	1.405	t=0.733	0.464	1.52
	No	66	3.47	1.541			1.51
Senior citizens at home?	Yes	251	3.55	1.523	t=3.237	0.001	1.60
	No	252	3.15	1.287			1.43
Children at home?	Yes	251	3.49	1.460	t=2.149	0.032	1.54
	No	252	3.21	1.375			1.49
Household size (count)	≤2	29	2.14	1.481	F=29.745	0.000	1.50
	3	117	2.83	1.177			1.52
	4	220	3.25	1.158			1.44
	5	77	3.87	1.361			1.66
	≥5	60	4.63	1.667			1.65
Religion	Christian	35	3.94	1.162	F=23.100	0.000	1.36
	Hindu	420	3.14	1.310			1.51
	Muslim	41	4.85	1.711			1.69
	Others	7	3.70	1.337			2.30
Chicken meat consumption frequency	Daily	34	5.43	1.547	F=55.838	0.000	1.67
	Alternate Days	63	4.21	1.152			1.47
	Twice Weekly	171	3.63	1.089			1.52
	Weekly	134	3.11	1.148			1.44
	Fortnightly	24	2.17	1.049			1.71
	Occasionally (randomly)	77	2.06	1.099			1.61

Test statistics (t or F) are to compare the categories in Broiler Chicken Meat alone.

Table 3. Determinants of Monthly Household Broiler Chicken Meat Purchase (in kg).
Tobit regression: Dependant variable=Purchase in kg.

Explanatory variables		Coefficient	Rob. SE	t	P value	Mean (X)
Gender	X_1	0.211	0.102	2.070	0.039	0.748
Age Groups (years)	X_2	0.078	0.058	1.330	0.183	3.085
Income Brackets (INR)	X_3	−0.077	0.037	−2.100	0.036	3.616
Educational levels	X_4	−0.341	0.170	−2.010	0.045	2.913
Marital status	X_5	0.062	0.194	0.320	0.748	0.819
Habitat (living area)	X_6	0.252	0.126	1.990	0.047	0.837
Cohabiting with family?	X_7	−0.372	0.165	−2.250	0.025	0.869
Household size (count)	X_8	0.520	0.044	11.720	0.000	4.093
Senior citizens at home?	X_9	−0.174	0.089	−1.960	0.050	0.499
Children at home?	X_{10}	−0.123	0.102	−1.210	0.228	0.499
Religion-Hindu	X_{11}	−0.175	0.152	−1.150	0.252	0.829
Religion-Muslim	X_{12}	0.470	0.228	2.060	0.040	0.082
Religion-Others	X_{13}	0.209	0.240	0.870	0.383	0.020
Daily	X_{14}	3.083	0.240	12.820	0.000	0.060
Alternate Days	X_{15}	2.135	0.149	14.340	0.000	0.125
Twice Weekly	X_{16}	1.491	0.111	13.400	0.000	0.340
Weekly	X_{17}	1.117	0.119	9.380	0.000	0.266
Fortnightly	X_{18}	0.341	0.216	1.580	0.115	0.048
Country Chicken Quantity	X_{19}	−0.069	0.034	−2.040	0.042	0.888
Constant		1.194	0.621	1.920	0.055	
Var (e. Broiler Quantity)		0.826	0.060			

N=503; Uncensored=494; Left-Censored=9

$F_{(19, 484)}$=35.53; p=0.000

Log pseudo likelihood=−663.430; Pseudo R^2=0.249

y=Linear prediction (predict)=3.345 kg

similar research by Charlebois *et al.* (2016) and Kennedy *et al.* (2004) that also found that gender has little to no impact on the amount of meat purchased. In terms of the monthly purchases of broiler chicken meat, there were no significant disparities between the age groups. Individuals under the age of 26 showed the highest average monthly purchase, 3.48 kg, while those over the age of 60 tended to make the lowest purchases, 2.89 kg on average. These results are consistent with other studies, such as the work of Rolls (1999), which constantly emphasises the disparities in nutritional preferences and choices between age groups.

The results indicated that individuals with a monthly income of less than or equal to 10,000 INR had the lowest mean broiler chicken purchase at 2.89 kg per month. As income levels increased, there was an upward trend in broiler chicken purchase. Those in the income range of 10,001 to 30,000 INR had the highest average purchase at 3.77 kg per month, accompanied by a higher SD of 1.713, suggesting greater purchase variability

within this group. While there were differences in mean purchase across income categories, the results of one-way ANOVA (F=3.322) exhibited that the differences in broiler chicken purchase among income groups were not statistically significant. As individuals and households have more disposable income, they tend to allocate a larger portion of it to meat and protein-rich foods, such as broiler chicken. This behavior is consistent with the idea that as people's economic well-being improves, they may choose to consume more meat products (Aral *et al.*, 2013; Zhang *et al.*, 2018).

Consumers with a primary educational level, on average, purchased the highest quantity of broiler chicken at 4.00 kg per month. In contrast, individuals with a secondary education level had a slightly lower mean purchase of 3.44 kg per month, while those with a collegiate-level education exhibited the lowest average purchase at 3.33 kg per month. The statistical analysis (F=1.453, p=0.235) suggests that although there are differences in mean purchase quantities across educational levels, these variations were not statistically significant, which is consistent with reports from Escriba-Perez *et al.* (2017) in Spain where they found no specific behaviour pattern in chicken purchase. Similarly, Marital status had no significant impact on broiler chicken purchases, with both married (3.35 kg/month) and unmarried individuals (3.36 kg/month) displaying comparable purchase quantities. This was supported by a non-significant statistical study (t=0.094, p=0.925), which showed that buying habits for broiler chicken were not significantly influenced by marital status.

Results of chicken purchases by residents of urban and rural areas revealed that urban residents purchased an average of 3.40 kilogrammes of chicken per month, while residents of rural areas purchased somewhat less at 3.11 kilogrammes per month. These differences, according to the statistical analysis (t=1.673, p=0.095), were not statistically significant. This shows that living conditions or habitat had no impact on broiler chicken purchase trends. Similar to this, family cohabitation status had little effect on consumers' buying habits for broiler chicken. The average monthly purchase was 3.33 kilogrammes for individuals living with family members, and 3.47 kilogrammes for those who did not. These differences, according to the statistical analysis (t=0.733, p=0.464), were not statistically significant.

The findings showed that households with elderly people at home purchased more broiler chicken on average each month (3.55 kilogrammes compared to 3.15 kilogrammes in households without senior citizens). The presence of older individuals in a family may affect the buying habits of broiler chickens, according to this statistically significant difference (t=3.237, p=0.001). It's reasonable that dietary preferences or nutritional needs of senior citizens contribute to this variation (Edfors & Westergren, 2012; Zaragoza-Martí *et al.*, 2020). Similar to this, households with children bought 3.49 kilogrammes of broiler chicken on average per month, whereas households without children bought 3.21 kilogrammes. This difference was also statistically significant (t=2.149, p=0.032), suggesting that a family's decision to eat broiler chicken may be influenced by the presence of youngsters. Children meal planning and dietary preferences may be influencing variables (Caswell *et al.*, 2013; Kostecka *et al.*, 2021). Depending on the size of the household, broiler chicken purchased differ significantly. The average monthly purchase for smaller

families with two or fewer people was 2.14 kilogrammes, whereas the average buy for larger households with five or more members was 4.63 kilogrammes. Given that this variation was highly statistically significant (F=29.745, p=0.000), it is likely that household size has a considerable impact on the intake of broiler chicken. Larger households may require more substantial quantities for family meals (Berman, 2020; Cornelsen *et al.*, 2016). Additionally, buying habits for broiler chicken varied significantly according to religion. Muslim households had a higher average monthly purchase of broiler chicken at 4.85 kg compared to Christian households at 3.94 kg and Hindu households at 3.14 kg. This variation was statistically significant (F=23.100, p=0.000), indicating that religious beliefs or dietary restrictions associated with specific religions may impact broiler chicken consumption (Ayman *et al.*, 2020).

Households that consumed chicken daily had the highest average purchase at 5.43 kg, while those consuming it occasionally (randomly) had the lowest average purchase at 2.06 kg. This difference was highly statistically significant (F=55.838, p=0.000), demonstrating that broiler chicken purchase volumes are significantly influenced by the frequency of chicken consumption (Escobedo del Bosque *et al.*, 2021; Memon *et al.*, 2009).

Factors influencing the household broiler chicken meat purchase pattern

The study, using Tobit regression, examined the various demographic and lifestyle factors influencing the monthly household broiler meat purchase and the results are presented in Table 3. The study identified a significant relationship between gender and the volume of monthly household broiler meat purchases. Being male was associated with a significant increase in monthly household broiler meat purchase of about 0.211 kilogrammes compared to being female. These results indicated that, on average, men had a larger propensity to consume broiler meat than women, while at the same time, women had more native chicken. Although not vividly accepted, this could have been the possible effect of social media misinformation. This gender-based disparity in consumption could have also been attributed to a variety of factors, including dietary preferences and distribution of cooking responsibilities (Rosenfeld & Tomiyama, 2021). However, age groups, as categorized in this study, did not exhibit a statistically significant effect on monthly broiler consumption. The coefficient of 0.078 is not statistically significant at the 0.05 level (p=0.183).

Consistent with the findings of Tan *et al.* (2018), the results indicated that income had a significant negative impact on the monthly quantity of broiler chicken meat households purchased. Monthly household purchases of broiler meat decreased by 0.077 kilogrammes for every incremental rise in the household's income category. However, contrary to the findings of Ani and Antriyandarti (2019) and Siburian *et al.* (2021), the results revealed a striking tendency wherein households with greater incomes typically consumed less broiler meat, possibly reflecting dietary preferences, purchasing patterns, or a preference for other meat types. Similarly, educational levels significantly negatively influenced monthly household broiler meat purchases, with each stage increase in the decision-making respondent's education linked to a 0.341 kg reduction in the quantity of broiler chicken meat purchased by the household. This suggests a potential connection between higher

education levels and preferences for alternative protein sources with a reduced broiler meat consumption (Hajiis *et al.*, 2018).

The analysis investigated the impact of marital status, habitat, cohabitation with family, household size, the presence of senior citizens, and children in the household on monthly broiler meat purchases. It revealed that marital status and the presence of children did not exert a statistically significant influence on purchase quantity, while the other variables demonstrated significant effects. Specifically, habitat, representing participants' living areas, exhibited a statistically significant increase in monthly household broiler meat purchases. Urban consumers bought, on average, 0.252 kg more broiler meat per month than their rural counterparts. Conversely, residents in rural areas had a higher average consumption of native chicken meat. This suggests that place of residence may play a pivotal role in shaping dietary choices, potentially resulting in distinct consumption patterns between urban and rural dwellers (Sahin *et al.*, 2013; Stamatopoulou & Tzimitra-Kalogianni, 2022). Conversely, consumers who did not cohabit with family members displayed a statistically significant increase in broiler meat purchases, consuming approximately 0.372 kg more per month. This underscores the substantial impact of living arrangements on broiler meat consumption, with individuals living alone or without family members exhibiting higher broiler meat consumption on average. Furthermore, household size demonstrated a highly significant positive effect on monthly broiler meat purchases. With each unit increase in household size, monthly broiler consumption increased by 0.520 kg. These findings indicate that larger households tend to consume more broiler meat on average, likely attributable to increased meal preparation requirements (Devi *et al.*, 2014). In contrast, households with senior citizens exhibited a slightly significant negative impact on monthly broiler meat purchases, but they purchased more native chicken meat. When other variables were held constant, these households consumed around 0.174 kg less broiler meat per month, with this effect being marginally significant ($p=0.050$). This reduction could be attributed to a combination of factors, including the influence of social media misinformation and the dietary preferences and habits of senior citizens within the household.

Tobit analysis unveiled distinct patterns in broiler chicken meat purchases among households of various religious affiliations. Specifically, when compared to Christian households, Hindu households and households of other religious faith did not demonstrate statistically significant differences in their broiler chicken meat purchases. In contrast, Muslim households exhibited a notable and statistically significant preference for broiler meat, purchasing approximately 0.470 kg more compared to their Christian counterparts. This could be indicative of varying dietary preferences and consumption patterns influenced by religious beliefs or cultural factors among different religious groups (Sathyamala, 2019; Usama *et al.*, 2022).

Various consumption frequencies demonstrate distinct impacts on monthly broiler meat purchases. Daily consumers significantly increased their broiler meat purchases by 3.083 kg compared to "occasional consumers." Similarly, households consuming broiler meat on alternate days purchased an additional 2.135 kg, a highly statistically significant difference. Those households consuming broiler meat twice a week increased their purchases by about 1.491 kg ($p=0.000$), while weekly consumers added 1.117 kg

more to their purchases than "occasional consumers," also with statistical significance (p=0.000). However, households consuming broiler meat fortnightly experienced a modest increase of approximately 0.341 kg compared to "occasional consumers," which did not reach statistical significance at the 0.05 level (p=0.115). Overall, the frequency of broiler meat consumption significantly impacts monthly purchases, with daily and alternate-day consumers showing substantial increases, indicating varying consumption patterns among these groups (Schmid *et al.*, 2017).

The quantity of country chicken consumed exhibits a statistically significant negative effect on monthly broiler meat purchases. Specifically, for each one-kg increase in country chicken quantity, monthly broiler meat purchases decreased by 0.069 kg. This implies that households that consume larger quantities of country chicken tend to have lower average broiler meat purchases, potentially influenced by dietary preferences or substitution effects.

It is imperative to emphasize that within the cohort of 503 household respondents, a noteworthy proportion, 494 (98.21%), purchased broiler chicken meat, while a mere 9 households (1.79%) exclusively favoured to buy native chicken. A subsegment of 296 households bought both broiler chicken meat and native chicken meat, among the 494 households that purchased broiler chicken meat. The Tobit analysis predicted that the average monthly household purchase of broiler chicken meat was 3.345 kg at the average level of the explanatory variables. Furthermore, households concurrently purchased about 1.50 kg of country (native) chicken meat in addition to broiler chicken meat. Among the 503 survey participants, a significant majority of 489 (97.20%) individuals acknowledged encountering negative misinformation concerning broiler chicken via social media platforms, notably through WhatsApp. This misinformation was either directly received by them or shared within their family circles. Specifically, 343 (68.19%) respondents were aware of the misleading claim that "Covid-19 (corona) virus spreads through broiler chicken." Additionally, statements suggesting that "Broiler chicken consumption triggers early puberty in girls" and "Broiler chicken consumption may lead to cystic ovaries and irregular menstrual cycles in women" were noticed by 201 (39.96%) respondents. Moreover, the assertion of "Chicken infected with Coronavirus found in Bangalore" was received by 96 (19.09%) participants. Nevertheless, it's crucial to note that despite these false claims, a substantial majority of participants continued to purchase and consume broiler chicken even after the dissemination of such misinformation. This persistence occurred because health authorities promptly clarified the situation within a couple of days of the news spreading. Social media misinformation about broiler chicken meat have been mitigated by the government, poultry farmers, and health authorities' efforts through media coverages.

CONCLUSIONS

Broiler chicken meat is a popular choice among the public due to its accessibility and affordability. It also plays a vital role in supplying consumers with protein and other essential nutrients, despite facing challenges such as social media-induced panic, supply chain disruptions, and the impact of Covid-19. This study explored household broiler chicken meat purchasing patterns, uncovering gender-based consumption differences. On average,

men favored broiler chicken, while women preferred native chicken. The potential impact of social media misinformation on women's choices and the influence on households with senior citizens, which consumed significantly less quantity compared to their counterparts, remained intriguing. In contrast, the presence of children within households did not have a statistically significant impact on purchasing habits.

The study also revealed that as incomes rose, households tended to buy less broiler chicken meat, influenced by factors like dietary preferences and alternative protein sources. Higher education levels were linked to reduced broiler chicken meat purchases. Household size had a significant impact, with larger families purchasing more. Frequency of consumption also played a key role in the monthly purchase quantity. In the context of the prevalence of social media misinformation, although there might have been a marginal adverse effect on household broiler consumption, it is noteworthy that a substantial portion of households persisted in their purchases of broiler chicken. This observation underscored the potential efficacy of media-based interventions in mitigating the influence of misinformation and reaffirmed the enduring preference for broiler chicken as a dietary protein choice among the wider consumer demographic. Moreover, to mitigate the effects of such challenges, it is crucial to enhance consumer confidence and trust in the reliability and quality of chicken products.

Informed Consent and Voluntary Survey Participation Statement:

In this research study, all survey participants provided informed consent and participated voluntarily. They were provided with clear information about the study's objectives and procedures. Participants were assured that their participation was entirely voluntary, with the right to refrain from submitting the survey form at any time without consequences. Strict ethical guidelines were followed to protect their rights and privacy.

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