



Empirical Study on Consumption Pattern of Poultry Meat in Srinagar City

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Abstract: *The consumption pattern of chicken has witnessed significant changes over the years, reflecting shifting preferences, dietary habits, and socioeconomic factors. With an increasing emphasis on health and wellness, consumers are opting for chicken as a healthier alternative to red meat. In India, the meat products sector witnessed remarkable growth, with the Gross Value Added (GVA) surpassing INR 3 trillion in 2021. The market is projected to expand further at a CAGR of 9.2%, reaching INR 3133.41 billion by 2028, driven by the escalating demand for protein-rich foods. Notably, the poultry business is thriving in Jammu and Kashmir, particularly in Kashmir, contributing significantly to this growth. This study delves into the consumption patterns of poultry meat among residents of Srinagar city, focusing on Groups- Government Employees, Private Employees, and Self-Employed individuals. Utilizing a stratified sampling technique, the research ensures representation from diverse employment sectors. The survey, encompassing 152 respondents, revealed that majority (67.8%) consumed poultry on weekly basis, with an average monthly household consumption of 7.20 kilograms, translating to a monthly expenditure of Rs 1052.63 on poultry. The study identified broiler chicken as the preferred type. Interestingly, demographic factors such as age, gender, marital status, and education level demonstrated no significant impact on poultry consumption, while household size, employment nature, number of earners, and income exhibited notable associations. Regarding consumer preferences, internal factor smell and freshness was found to be the most influential while among external factors, affordability had the greatest impact on consumer preference. Overall, internal factors had a higher influence on consumer preference, with a total mean rating of 3.5184, compared to external factors, with a total mean rating of 3.3509. Recognizing substantial impact of internal factors on consumer preference, processing companies should prioritize aligning products with these preferences through market research, innovation, quality assurance, and heightened consumer education.*

Keywords: *Poultry, Consumption, Consumer Preferences, Processed Products.*



1. INTRODUCTION

The rise in global consumption of meat and value-added products are notable, not only for its magnitude, but also for its consistency over a long period of time. Despite multiple ailments linked to its consumption, it has still managed to grow steadily over the years. Positive trends have been observed in all types of meat consumption, including beef, but highest growth has been observed in poultry consumption [1]. Poultry meat is an essential source of animal protein in human growth and development hence it is in high demand worldwide. Multiple factors that lead to its mass consumption includes dietary and adequate nutrition (protein), relatively affordable price, easy availability and acceptability by all sections of society due to the absence of cultural and religious barriers [2]. Over the last two decades, chicken has become the most consumed livestock item in the world, particularly in developing and emerging regions where production prospects are limited. Over the next ten years, poultry is predicted to be the world's largest imported livestock commodity by volume. Global chicken imports increased at a 4% annual rate from 2001 to 2021, reaching 14.2 million metric tonnes in 2021. The USDA anticipates that poultry imports will reach 17.5 million metric tonnes by 2031 [3].

1.1 Poultry Sector in India

India has always been recognised as a country with a diverse people and various cultures and traditions. Indian food preferences vary according to religion, culture, tradition, socioeconomic status, geographical location and so on. Meat consumption in India has changed considerably as a result of nutritional transition, developing lifestyle and rising purchasing power. Meat, as a rich source of vital proteins, vitamins and minerals, has earned a place as multifaceted nutrient in Indian cuisine. With advancement in knowledge, consumers have been more conscious about the quality and health aspects of foods they consume [4]. Meat and meat products are widely regarded as excellent sources of high biological value proteins, fat soluble vitamins, minerals, trace elements and bioactive substances [5]. The low cost contributes to the popularity of poultry meat among consumers globally, particularly in underdeveloped countries [6]. The religions, in particular, influence meat consumption, with Abrahamic religion especially Islam forbidding pork and Hinduism forbids eating beef. The desire and consumption of chicken meat can be considered a worldwide phenomenon, also chicken meat is widely accepted by Indian consumers in comparison to other meat consumption. The increased use of chicken meat is attributed to the meat's versatility, low cost in contrast to other meat and acceptance by all religions [7].

Poultry is an essential component of livestock and is one of India's fastest expanding agricultural sectors. In 2019, the total number of poultry in the country was 851.81 million, up 16.81% from the previous census (20th Livestock Census). Poultry meat has been identified as the key driver of global meat production increase. In 2020, India consumed more than 3.9 million metric tonnes of poultry meat (USDA report). In fiscal year 2021, the gross value added from poultry meat in India's livestock sector was more than INR 1.44 trillion. This represented a huge increase over previous fiscal years. In 2021, the overall GVA of meat products was more than INR three trillion [8]. The market is projected to grow at a Compound Annual Growth



Rate (CAGR) of 9.2% from 2023 to 2028, reaching a value of INR 3133.41 billion by 2028 [9].

1.2 Poultry Industry in J&K

Jammu and Kashmir and Ladakh's economies rely heavily on livestock. It has contributed significantly to the socioeconomic growth of the region. According to the 20th Livestock Census, the livestock and poultry populations of Jammu and Kashmir and Ladakh is 8.32 million and 7.37 million, respectively [10]. Poultry farming has a long history in Jammu and Kashmir, with traditional farming methods reaching back centuries. However, the sector has witnessed tremendous modernization and expansion in recent years. This expansion can be ascribed to a variety of factors, including changes in eating habits, the emergence of the middle class and their increased income, the involvement of private enterprises in the industry and rising market demand for chicken products [11]. J&K managed 640.95 lakh kilogrammes poultry locally in 2015-16, while only 174.34 lakh kilogrammes were imported. As a result, roughly three-quarters of J&K's poultry demand is met locally. J&K's daily poultry requirement was approximately 2,23,375 kgs, which corresponds to Rs 2,79,21,875 in daily business. As per the Government figures, J&K's annual poultry consumption in 2015-16 was on the order of 8,15,32,000 kgs, implying a yearly revenue of Rs 1019.15 crore. A large populace is involved in the poultry industry [12]. Notably, the poultry business is thriving in Jammu and Kashmir, particularly Kashmir region contributing significantly to this growth. To further understand the growth and performance of the poultry sector, it becomes crucial to identify and develop key factors that have accelerated its progress. In light of this, an attempt was made to study the consumption pattern for poultry meat in Srinagar city.

2. RELATED WORKS

Numerous studies in the literature highlight the significance of poultry consumption and its steadily rising demand. Research on consumer preferences and behaviours reveals that these are influenced by a wide range of factors. Scanes [13] highlighted the rising significance of poultry production worldwide, showcasing statistical data on leading countries in poultry meat and egg production from 1995 to 2005. This data indicates a marked increase in both global poultry consumption and production during that period, reflecting a growing demand for poultry as a key protein source. In Malaysia, research [14] categorized chicken meat consumers into distinct groups—routine eaters, likers, health-conscious lovers, and passionate enthusiasts. This segmentation underscores how individual preferences are influenced by flavour, price, and ease of preparation, highlighting the complexity of consumer behaviour in relation to poultry consumption.

Moreover, the interconnectedness of price, nutritional value, and convenience emerges as pivotal factors affecting purchasing decisions in another study [15]. This research articulates a comprehensive chicken meat consumption profile, emphasizing that enhancing market shares requires addressing these key aspects through improved product quality and innovative marketing strategies. In India, a study conducted in Gannavaram, Andhra Pradesh [16], illustrates how cultural and religious norms can influence meat consumption patterns, revealing



that many respondents prefer poultry over other meats. The average monthly meat consumption was noted to be 1200 g per household, yet there is a critical gap in public awareness regarding the nutritional value of meat. This lack of knowledge points to a significant opportunity for education initiatives aimed at informing consumers about the health benefits of poultry. Such educational efforts could further shape consumer preferences and consumption behaviours, ensuring that these align with nutritional best practices.

In examining the attributes that influence purchasing decisions, a study [17] on indigenous chicken highlighted the importance of factors such as skin color, size, tenderness, and price. The role of socioeconomic variables—like age, education, and household size—was found to significantly affect consumption frequency. This underscores the necessity for traders to adopt a marketing mix that resonates with consumer preferences, potentially leading to enhanced market acceptance. Similarly, research in Srinagar [18] found that affordability was a primary driver for poultry consumption, with broiler chicken being the most favored option. The average monthly consumption of 7.06 kg per family, coupled with an expenditure of Rs 1059.49 on chicken, indicates that family income is a substantial factor influencing overall consumption behavior.

Further, studies conducted in different regions, such as Sulaymaniyah, Iraq [6], and Ondo State, Nigeria [19], reveal varying preferences that are shaped by local contexts. In Sulaymaniyah, a preference for local Kurdish chicken and whole birds was noted, with sensory attributes outweighing external factors like social environment. Conversely, in Nigeria, the preference for processed chicken was linked closely to taste, with income level and education emerging as critical determinants of consumption choices. Together, these studies provide a nuanced understanding of the multifaceted nature of poultry consumption, emphasizing its importance in diets both globally and within specific regional contexts. By recognizing the complex interplay of cultural, socioeconomic, and individual factors, stakeholders in the poultry industry can better cater to consumer preferences, ultimately supporting sustainable production and consumption practices.

Need of Study

A significant amount of household income is being invested in poultry and its consumption is on the rise, driven by the proliferation of restaurants and outside food options in Srinagar city. Poultry products are now a common choice both in households and when dining out. Understanding and studying the consumption patterns and for poultry meat has become increasingly crucial. The study will help us in determining the socio-economic factors that influence consumption pattern and also helps in determining the frequency and rupee value spent by employees (private & public) and self-employed individuals out of their disposable income on purchases of poultry meat. Moreover, the study will enable marketers identify factors that influence consumer behaviour and consumption desires, as well as provide them with knowledge how to efficiently target and position their products in market segments.



3. METHODOLOGY

The sampling design employed in the study was a stratified sampling technique, which divided the sample into three categories based on the nature of employment viz government employees, private employees, and self-employed individuals. This approach aimed to ensure representative data from different employment sectors within Srinagar city. Both primary and secondary data was used to analyse the perspectives of consumers regarding the consumption pattern and consumer preferences for chicken and its processed products. Secondary sources included Directorates of Economics and Statistics and the Economic Survey of Jammu and Kashmir. Additionally, reports from organizations such as the Mobile Association of India and Statista were consulted. Furthermore, the study gathered secondary data from various research papers, internet sources, magazines, relevant books, journals and newspapers. Primary data was collected through well-structured questionnaire which was distributed to employees residing in Srinagar city via various social media platforms such as emails, Google forms, WhatsApp, as well as offline. A total of 170 questionnaires were distributed, out of which **152** returned successfully and were found to be complete, accurate, and appropriate for data analysis.

Data analysis involved the use of summarization techniques, including frequency and percentage calculations, as well as descriptive statistics such as mean and standard deviation. Comparative statistics were conducted using the chi-square test to examine associations between variables. The Statistical Package for Social Sciences (SPSS) was employed as the software tool for the entire data analysis process.

4. RESULTS AND DISCUSSION

4.1 Socio-Economic Profile

Table 1: Socio-economic profile of respondents

Socio-Economic variables	Percentage			
	21-30 (Years)	31-40 (Years)	41-50 (Years)	51-60 (Years)
Age	27.6 %	30.9%	30.9%	10.6%
	Male	Female		
Gender	32.2%	67.8%		
	Less or equal to 3	4-7 members	8 or above	
Household size	15.8%	81.6%	2.6%	
	Married	Unmarried		
Marital Status	65.8%	34.2%		
	Up to 10th	Up to 12th	Graduate	PG or above
Education level	0.7%	5.8%	25.7%	67.8%



Nature of Employment	Government	Private	Self Employed	
	39.5%	32.9%	27.6%	
Number of earners	One	Two	Three	Four or above
	27.1%	46.1%	22.4%	4.4%
Monthly Income	Less than 25K	25K-50K	Above 50K-75K	Above 75K
	28.9%	36.2%	14.5%	20.4%
Monthly Household Income	Less than 50K	50K-1,50,000	Above 1,50,000-2,50,000	Above 2,50,000
	36.8%	48.0%	11.8%	3.3%

As shown in Table 1, the study's sample predominantly consisted respondents ranging in the age group of 31-50 years, comprising 2/3rd of the participants, with females accounting for around 67.8% of the sample. Among the surveyed sample 65.8% were married and with respect to formal education majority accounting 67.8% respondents of the sample were having a post-graduate degree or above. A significant majority, exceeding 80%, hailed from households with 4-5 members and in these households, mostly two family members were contributing to the income. Majority contributing 36.2% fell into the income bracket of Rs 25,000- 50,000, and in terms of monthly household income, over 40% of the respondents reported a range of Rs 50,000 to Rs 150,000. Employment wise, 39% of the respondents held government positions, while 32.9% were employed in the private sector and 27.6% were self-employed business owners.

4.2 Analysis on Consumption Pattern of Poultry Meat

(Table 2) Consumption Pattern among sampled respondents

Consumption pattern variables	Percentage			
	Daily	Weekly	Fortnightly	Monthly/Rarely
Frequency	16.4%	67.8%	7.9%	7.9%
Quantity consumed/ month	Less than 5 Kgs	5-10 kgs	More than 10 Kgs	
	34.2%	37.5%	28.3%	
Monthly Expenditure	Less than Rs 500	500-1000Rs	More than 1000 Rs	
	2.0%	35.5%	62.5%	
Reasons for consumption	Nutrition & Health	Taste	Cost	Convenience
	18.2%	23.5%	27.7%	30.6%
Preferred type of chicken	Broiler	Local	Layer	
	77.6%	21.7%	0.7%	



Poultry meat eating habit	Cooked	Processed	Cooked & processed	
	78.9%	2.6%	18.4%	
Preferred whole chicken carcass weight	Small (Less than 1 kg)	Medium (1-2Kg)	Large (2-3 Kg)	Extra Large (Greater than 3 Kg)
	4.6%	88.2%	6.6%	0.7%
Challenges while purchasing chicken	Low Income	Poor Meat Quality/ Disease	Shortage of supply	No challenge
	6.4%	31.2%	13.4%	49.0%
Impact of disease on purchase	Yes	No	Indifferent	
	78.9%	14.5%	6.6%	

As shown in Table 2, majority of the sampled respondents (2/3rd) reported consuming poultry on a weekly basis. Around 37.5% of the respondents stated that their monthly consumption of poultry products falls within the range of 5-10 kilograms. The study found that the average monthly consumption among the respondents was 7.20 kilograms. The study revealed that more than 60% of the respondents reported spending over Rs 1000 per month on poultry products. The average monthly expenditure among the respondents was calculated to be Rs 1052.63. The study identified cost and convenience as the primary factors driving poultry consumption among the respondents. Additionally, the findings revealed that broiler chicken was the preferred type of chicken. Specifically, chicken with a carcass weight ranging from 1-2 kilograms was found to be the most preferred among the respondents. Approximately 50% of the respondents reported to face no challenges when purchasing chicken. However, a notable percentage of 31.2% mentioned poor quality chicken and diseases as a significant challenge. This was followed by concerns regarding the shortage of meat supply.

4.3 Comparative Statistics of Socio-Economic Factors on Quantity of Poultry Meat Consumed

(Table 3) Comparative Statistics of socio-economic factors on quantity of poultry meat consumed

SOCIO ECONOMIC FACTORS	CONSUMPTION FACTOR	χ² Value	Ha
Age	Quantity of consumption	9.769	Rejected
Gender	Quantity of consumption	1.219	Rejected
Household Size*	Quantity of consumption	18.043*	Accepted
Marital Status	Quantity of consumption	5.709	Rejected



Education level	Quantity of consumption	4.701	Rejected
Nature of employment*	Quantity of consumption	23.445*	Accepted
No. of earners*	Quantity of consumption	32.248*	Accepted
Monthly income*	Quantity of consumption	26.587*	Accepted
Monthly Household income*	Quantity of consumption	86.091*	Accepted

Significance at 0.05 level

Based on the comparative statistics performed using the chi-square test, it was found that Age, Gender, Marital status and Education level did not show any association with the quantity of poultry consumed as shown in Table 3. This implies that these factors are not significant predictors of poultry consumption.

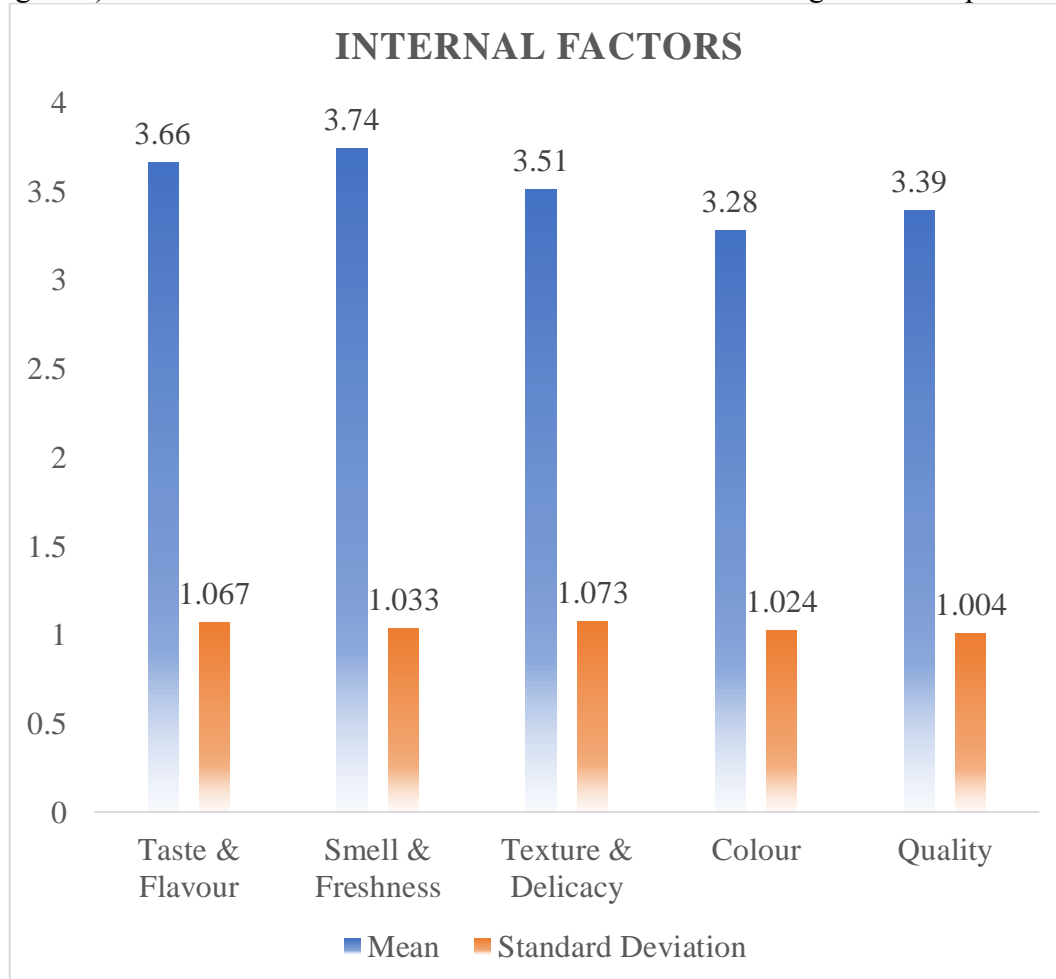
On the other hand, the analysis revealed that household size had a significant relationship with the quantity of poultry consumption. This finding aligns with previous studies conducted by [20], [21], which also demonstrated a significant association between household size and poultry consumption. This suggests that larger households tend to consume more poultry compared to smaller households. Additionally, the nature of employment and the number of earners in the household were found to have a close relationship with quantity of poultry consumed. Furthermore, income was identified as another significant factor influencing the quantity of poultry consumption. This finding is consistent with earlier studies conducted by [19],[22],[23], which demonstrated that household income has a significant impact on food consumption patterns. In this case, higher household incomes were associated with greater quantities of poultry consumption. These findings indicate that aspects related to the household's financial situation and structure play a more influential role in determining the quantity of poultry consumed, while other demographic characteristics have a less pronounced effect.

4.4 Factors Affecting Consumer Preference for Poultry Meat & its Processed Products

4.4.1 Internal Factors of poultry affecting consumer preference refer to the specific characteristics and attributes of poultry products themselves that influence consumers' choices and preferences. These factors originate from within the poultry products and can significantly impact consumers' decisions to purchase and consume them. In the research conducted by [6], internal factors influencing consumer preferences for poultry were categorized into two main groups: sensory features and perceptual features. Sensory features encompassed taste and flavour, smell and freshness, texture and delicacy and colour. On the other hand, perceptual features included portion size, nutrition and health value (especially with less fat) and overall product quality. The findings presented in Figure (1) indicate that smell and freshness were the most significant internal variables influencing consumer preferences when purchasing poultry processed products, with an average rating of 3.74. Following closely behind were taste and

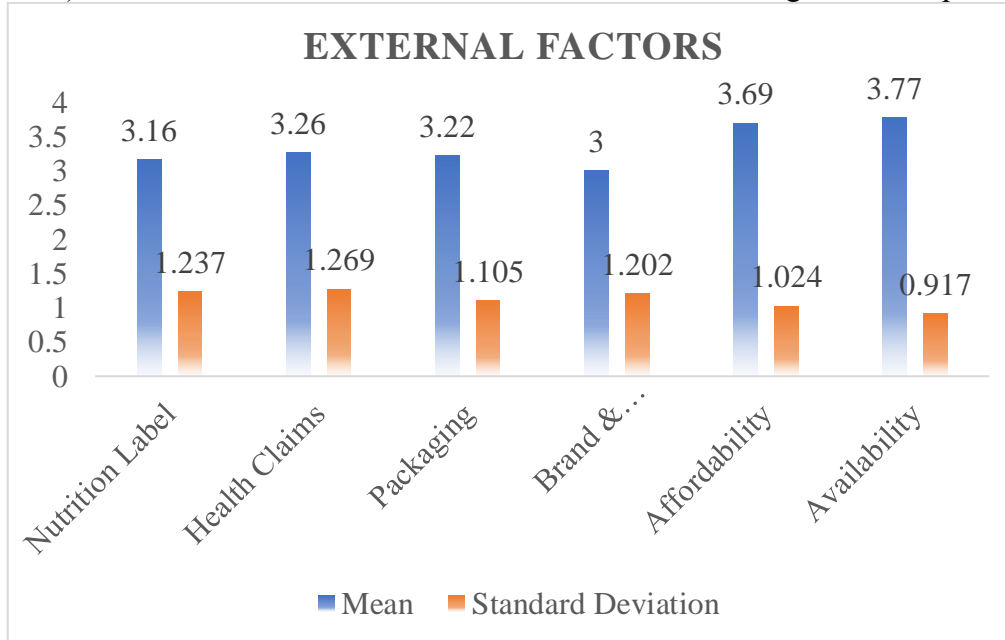
flavour, which received an average rating of 3.66 and were the most significant internal variables influencing consumer preferences when purchasing poultry processed products.

(Figure 1) Mean & Standard deviation of internal factors affecting consumer preference



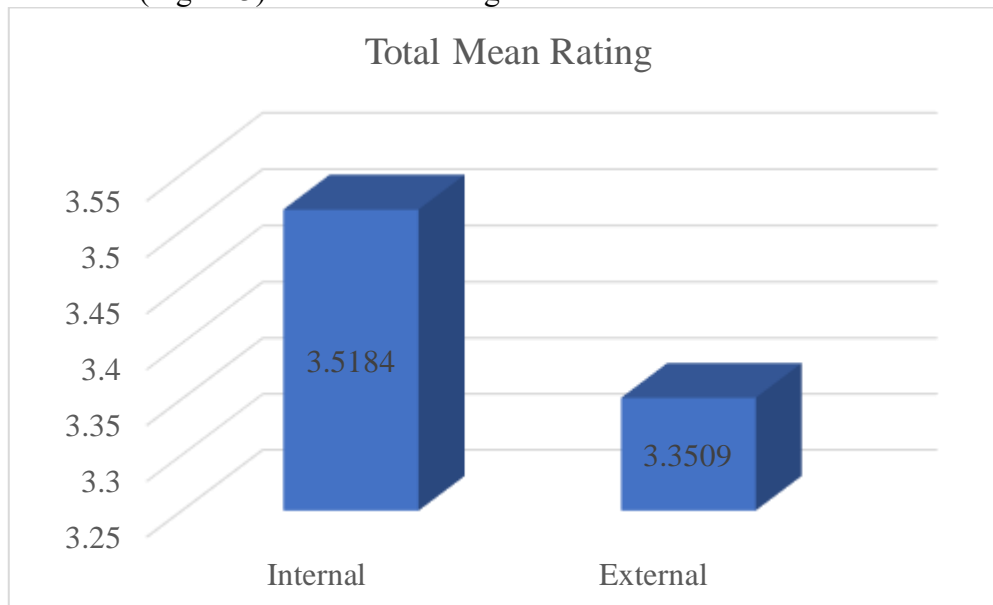
4.4.2 External Factors affecting consumer preference for poultry products are those that originate outside the product and are influenced by the external environment in which consumers make their purchasing decisions. In the study conducted by [6], external factors influencing consumer preference for poultry products were classified into three main categories: information, social environment and physical environment. Each category encompassed various factors that played a significant role in shaping consumers' choices and behaviors related to poultry consumption. The findings presented in Figure (2) revealed affordability (mean= 3.77) and availability (mean=3.69) were the two main external factors influencing consumer preference while purchasing processed poultry products.

(Figure 2) Mean & Standard deviation of external factors affecting consumer preference



4.4.3 Total Mean Rating of Internal & External Factors:

(Figure 3) Total mean rating of internal & external factors



The findings indicate that internal factors have a higher overall influence on consumer preferences for purchasing poultry processed products, with a total mean rating of 3.5184. In contrast, external factors have a relatively lower impact, as indicated by their total mean rating of 3.3509 as shown in figure 3. This suggests that consumers tend to prioritize internal factors such as smell, freshness, taste and texture when making decisions about poultry processed



products, placing slightly less emphasis on external factors like availability, affordability, health claims, packaging, nutrition labels and brand advertisement. This analysis is in accordance with previous research of Neima *et al.* [6].

5. CONCLUSION

The study surveyed 152 respondents and revealed that a majority of 67.8% consumed poultry on a weekly basis. The average monthly household consumption of poultry was 7.20 kilograms, with an average monthly expenditure of Rs 1052.63 on the poultry. The most preferred type of chicken among the respondents was broiler, favoured by 77.6% of them. The analysis also identified that Age, Gender, Marital status, and Education level do not have a significant impact on the quantity of poultry consumed. However, household size, the nature of employment, the number of earners, and income were found to have significant associations with poultry consumption. Regarding consumer preferences, internal factor smell and freshness was found to be the most influential, with a mean rating of 3.74. Among external factors, affordability had the greatest impact on consumer preference, with a mean rating of 3.77. Overall, internal factors had a higher influence on consumer preference, with a total mean rating of 3.5184, compared to external factors, which had a lower impact with a total mean rating of 3.3509.

Suggestions

To enhance the poultry industry in Jammu and Kashmir, it is crucial to recognize the preference for broiler chicken among the majority of respondents (77.6%). However, this should not overshadow the importance of promoting local chicken breeding. Therefore, local chicken breeders should be encouraged to focus on quality breeding and selection of indigenous chicken breeds that are well-adapted to the region's climate and environment. Efficient marketing and distribution channels must be developed to connect poultry farmers with consumers, hotels, restaurants and supermarkets. Partnerships with local businesses must be created to ensure consistent supply of poultry products, since several respondents indicated a supply deficit as one of the issues they experienced when purchasing poultry. Poor quality poultry was identified as one of the challenges when purchasing chicken therefore farmers should select high-quality breeds that are known for their desirable traits such as good meat yield, disease resistance and fast growth. This can be done through collaboration with agricultural experts and breeding programs that emphasize the selection of superior genetic stock.

Since processed poultry products were preferred by small percentage of respondents therefore, development of value-added products from poultry, such as processed chicken products, ready-to-eat items and value-added products must be encouraged. This diversification can increase the consumption of poultry products and add value to the industry. By standardizing processing and packaging practices, conducting regular inspections and ensuring adherence to hygiene and quality control measures, the poultry industry in Jammu and Kashmir can instill confidence among consumers regarding the safety and quality of processed poultry products. This will contribute to the growth and reputation of the industry while meeting consumer expectations.



6. REFERENCES

1. Valceschini, E. 2006, September. Poultry meat trends and consumer attitudes. In Proceedings of the XII European Poultry Conference pp. 1-10.
2. Wahyono, N. D. and Utami, M. M. D. 2018. A review of the poultry meat production industry for food safety in Indonesia. In Journal of Physics: conference series 953(1): 012125.
3. Economic Research Services, 2022. Link retrieved from <https://www.ers.usda.gov/amber-waves/2022/august/poultry-expected-to-continue-leading-global-meat-imports-as-demand-rises/>
4. Singh, S., Mehta, N., Chatli, M. K. and Malav, O. P. 2019. Consumer studies on meat consumption and processing pattern through contact survey in different zones of Ludhiana City. Journal of Animal Research 9(4): 605- 611.
5. Mehta, N., Ahlawat, S. S., Sharma, D. P. and Dabur, R. S. 2015. Novel trends in development of dietary fiber rich meat products—a critical review. Journal of food science and technology 52: 633-647.
6. Neima, H. A., Sirwan, K. and Hameed, K. 2021, November. Consumers Choice and Preference for Chicken Meat in Sulaymaniyah. In IOP Conference Series: Earth and Environmental Science 910(1): 012028.
7. Devi, S. M., Balachandar, V., Lee, S. I. and Kim, I. H. 2014. An outline of meat consumption in the Indian population-A pilot review. Korean journal for food science of animal resources 34(4): 507.
8. Statista, 2023 retrieved from “<https://www.statista.com/statistics/1358419/india-economic-contribution-of-poultry-meat/#:~:text=In%20fiscal%20year%202021%2C%20the, trillion%20Indian%20rupees%20in%202021>”
9. India Poultry Market Report and Forecast 2023-2028, link retrieved from “<https://www.researchandmarkets.com/reports/5775235/india-poultry-market-report-forecast>”
10. Hamadani, A., Ganai, N. A., Rather, M. A., Shanaz, S., Ayaz, A. A. D. I. L., Mansoor, S. and Nazir, S. 2022. Livestock and poultry breeds of Jammu and Kashmir and Ladakh. Indian J Anim Sci. 92(4): 409-416.
11. Anonymous. 2023. ‘J&K Govt aims to enhance gross output of Poultry sector from Rs 709 Cr to Rs 1982 Cr annually, Greater Kashmir, 2023
12. Anonymous. 2017. Kashmir consumes 2. 23 lakh kgs of poultry for Rs 2. 79cr, Daily Kashmir life, Local Newspaper, 2017
13. Scanes, C. G. 2007. The global importance of poultry. Poultry science 86(6): 1057.
14. Jayaraman, K., Munira, H., Chowdhury, D. and Iranmanesh, M. 2013. The preference and consumption of chicken lovers with race as a moderator-An empirical study in Malaysia. International Food Research Journal 20(1): 165.
15. Aral, Y., Aydin, E., Demir, P., Akin, A. C., Cevger, Y., Kuyululu, Ç. Y. K. and Arikan, M. S. 2013. Consumer preferences and consumption situation of chicken meat in Ankara Province, Turkey. Turkish Journal of Veterinary & Animal Sciences 37(5): 582-587
16. Rao, B. E., Bhaskar, K., Mallika, E. N., Naveen, Z. and Gupta, R. S. D. 2017. A study on consumption pattern of meat in and around rural locality of vi Gannavaram (Andhra Pradesh. Chemical Science Review and Letters 6(23): 1363-1368



17. Ndenga, C. 2019. Analysis of Consumer Preference for Product Attributes: A Case of Indigenous Chicken in Makueni and Nairobi Counties, Kenya (Doctoral dissertation, Kenyatta University)
18. Ayman, N., Hamdani, S. A., Shubeena, S., Altaf, A., Rasool, S. and Akand, A. H. 2020. Poultry meat consumption patterns in Srinagar city of Jammu and Kashmir
19. Akinbola A. E., Aturamu O. A., Oladoyin O. P. and Oladayo T. O. 2021. Evaluation of Consumer Preference for the consumption of processed chicken: A case study of public servants in Ondo State, Nigeria. *International Journal of Agriculture, Environment and Bioresearch* 6: 23- 29.
20. Ogwumike F. O. 2002. 'An appraisal of Poverty Reduction Strategies in Nigeria' <http://www.cenbank.org/OUT/PUBLICATIONS/EFR/RD/2002>
21. Amaza, P., Abdoulaye, T., Kwaghe, P., & Tegbaru, A. 2009. Changes in household food security and poverty status in PROSAB area of Southern Borno State, Nigeria. IITA, Ibadan, Nigeria.
22. Ibekwe, U. C. and Emenyonu, C. A. 2008. Analysis of Household Consumption of Cereals in Owerri Municipality, Imo State, Nigeria CS Onyemauwa, MACA Odii, JI Lemchi, CC Eze. *International Journal of Agricultural Research* 3(4): 273-280.
23. Okidim, I. A. 2012. Analysis of the demand for and supply of rice in some selected local government areas of Niger State of Nigeria. *Advances in Agriculture, Sciences and Engineering Research* 2(1): 67-71.