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Consumption Pattern of Packaged Dairy Products in Haryana

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Abstract: *The growing demand for packaged dairy products is a key trend in the Indian market. With rising income and increased production, packaged dairy products have become an important part of the people in Haryana. The consumption pattern of dairy products is shifting from loosely sold dairy products to packaged dairy products. India's dairy market reached an INR 13,174 Billion in 2021. IMARC Group expects the dairy market to reach INR 30,840 Billion by 2027, exhibiting at a CAGR of 14.98% during 2022-2027. The study analysed the consumers' consumption patterns of various packaged dairy products. Friedman's test is applied for significant difference between mean rank and consumers' consumption of packaged dairy products. The study revealed that among all packaged dairy products, milk is the most consumed and cheese is the least consumed packaged dairy product.*

Keywords: *Milk, Consumption pattern, Packaged dairy products.*

I. INTRODUCTION

Consumer demand for dairy products is increasing daily, leading to the adoption of forward-looking technologies by the world's leading dairy producers. A CAGR of 5.2 per cent from 2019 is expected to grow to \$645.8 billion by 2025 (Meticulous Research, 2020). The high growth of the dairy industry, mainly attributed to rising population and urbanisation, increased consumer awareness, specifically regarding its nutritional value. The milk sector represents the largest sector of the global dairy industry. Milk is the most liked, consumed, and marketed dairy product worldwide due to increased requirement and production over the past two decades and remarkable improvement in all the units involved in dairy processing operations.

According to the annual report of the fiscal year 2018-2019, the Ministry of Agriculture and Agricultural Welfare and the Government of India, cooperatives and private dairies derive only around 20% of the milk produced, while the remaining 32% is sold in the unregulated market. Approximately 48% is processed domestically. However, 90 per cent of extra milk is handled through the organised sector in most affluent nations.

India is still the leading producer of dairy products in the world. Between 2016-17 and 2017-18, milk production is 165.4 million tons and 176.3 million tons. In 2019-2020, milk was available per capita at around 407 gm/day (Economic survey, 2021). National Dairy Development Board (NDDB) estimated that in 2030 the predicted demand for milk and milk products in India would be approx. 266.5 million metric tonnes.

Around 46 per cent of milk in India is consumed by farmers or sold locally by producers. The remaining 54 per cent of the milk is available for sale to organised and unorganised players.

Haryana's market currently represents the fifteenth largest dairy market in India. According to the Livestock Census (2019), 7126497 milk-yielding animals are in Haryana. Milk production in the state is 54.70 thousand MT, of which buffalo contributes 80 per cent. The production of milk is increasing year by year.

Milk is the best example of a food product that can extend its shelf life from hours to weeks and months due to processing technology, packaging material and methods. The shelf life varies depending on raw milk quality, processing conditions, microbial growth, packaging materials, exposure to light and temperature abuse. Good packaging helps to protect the product from oxidation. The packaging uses the most appropriate containers and components to protect, carry, identify and merchandise any product.

Dairy products are the major source of proteins in India, particularly for most of the vegetarian population. The question often arises as to whether India could produce enough milk and milk products to meet its growing demand or whether it will have to resort to imports of these commodities. A limited number of earlier attempts specifically examined the consumption of milk and milk products (Sinha and Giri, 1989; Gandhi and Mani 1995; Kumar and Birthal, 2004). Bousbia et al. (2017) investigated the relationship between consumption and consumption of dairy products to identify the effects of different variables on consumers' milk product purchase decisions. With random sampling, 326 households from urban, rural and semi-urban regions were selected from Guelma (Algeria). Primary data were collected using structured questionnaires. Different socioeconomic variables were assessed and covariance analysis was adopted to determine yearly quantitative consumption of dairy products. The study revealed that consumer behaviour differs from flavours, trust, health advantages, packaging, store type, brand, product origin, and publicity. Results announced that consumption of raw milk was higher in rural areas than in urban areas, average consumption was 162 ± 113 kg, and pasteurised milk was 65.03 kg per person yearly. Based on results, geographic location, number of children per home, price, and income level were crucial determinants in dairy product consumption. However, none of these studies provides a comprehensive picture of dairy product consumption in India.

II. MATERIALS AND METHODS

The study was conducted through survey in the assigned areas through direct interviews with consumers with the help of a structured questionnaire. Primary and secondary data were used to meet the study's objective. Primary data were collected from consumers of packaged dairy products. Secondary data were collected from magazines, books and websites.

III. SAMPLING METHOD

The sampling method is Non-probability sampling, under which convenience sampling techniques were used.

IV. SAMPLING UNIT

Individuals who consumed packaged dairy products were interviewed from selected districts of Haryana and data were collected from them.

V. SAMPLING SIZE

600 Respondents were selected from Rohtak, Gurugram, Faridabad, Ambala, Karnal and Hisar district of Haryana.

VI. THE OBJECTIVE OF THE STUDY

- To study the consumption pattern of packaged dairy products in Haryana.

Exhibit: 6.1 Analysis of Monthly Expenses on the Consumption of Dairy Products

Monthly Expenses (In Rupees)		Frequency	Valid Percent
Valid	Below 5000	158	26.3
	5000 – 10000	181	30.2
	10000 – 15000	153	25.5
	Above 15000	108	18.0
	Total	600	100.0

Exhibit 6.1 reveals the monthly expenses on the consumption of packaged dairy products. After analysis, it was obtained that 26.3 per cent of respondents spends 5000 rupees or less than 5000 rupees, 30.2% of respondents spends 5000 to 10000 rupees, 25.5 per cent of respondents spends 10000 to 15000 rupees, and 18.0% of respondents spend 15000 rupees or above

on consumption of packaged dairy products. It is found from Exhibit 6.1 that the majority of the respondents, 30.2% spent 5000-10000 rupees monthly on dairy products.

Exhibits Describes The Daily Consumption of Various Packaged Dairy Products, i.e., Milk, Butter, Curd, Buttermilk, Cheese, Ghee Etc.

Exhibit: 6.2 Analysis of Daily Consumption of milk

	Milk	Frequency	Valid Per cent
	Nil	6	1.0
	Up to 200ml	42	7.0
	200ml to 500ml	89	14.8
	500ml to 1 litre	114	19.0
	Above 1 litre	349	58.2
	Total	600	100.0

Exhibit 6.2 exhibits the daily consumption of milk. After analysis, it was obtained that 1.0% of respondents do not consume milk, 7.0 % of respondents consume up to 200ml milk, 14.8 % respondents consume 200 to 500ml milk, 19 % respondents consume 500ml- 1litre milk and 58.2 % respondents consume 1litre or above 1litre milk daily, these were the overall daily consumption of milk. Most of the respondents (58.2%) consume more than 1 litre of milk daily. It is found from Exhibit 6.2 that most respondents (36.7%) do not consume butter daily.

Exhibit: 4.3 Analysis of Daily Consumption of Butter

	Butter	Frequency	Valid Per cent
Valid	Nil	220	36.7
	Up to 50gms	181	30.2
	100 – 200gms	38	6.3
	50 – 100gms	82	13.7
	Above 200gms	79	13.2
	Total	600	100.0

Above Exhibit 6.3 exhibits the daily consumption of butter. After analysis, it was obtained that 36.7% of respondents do not consume butter, 30.2 % of respondents consume up to 50gms butter, 13.7% respondents consume 50 to 100gm butter, 6.3% respondents consume 100 – 200gm butter, 13.2% respondents consume 200g, or above 200gm butter, these were the overall daily consumption of butter. It is found from Exhibit 6.3 that the majority of the respondents (36.7%) do not consume butter daily.

Exhibit: 6.4 Analysis of Daily Consumption of Ghee

	Ghee	Frequency	Valid Per cent
Valid	Nil	35	5.8
	Up to 50gms	193	32.2
	100 – 200gms	102	17.0
	50 – 100gms	164	27.3
	Above 200gms	106	17.7
	Total	600	100.0

Above Exhibit 6.4 presents the daily consumption of ghee. After analysis, it was obtained that 5.8% of respondents do not consume ghee, 32.2% respondents consume up to 50gm ghee, 27.3% respondents consume 50-100gm ghee, 17.0% respondents consume 100-200gm ghee and 17.7% respondents consumes 200gm or above 200gm ghee; these were the overall daily consumption of ghee. It is found from Exhibit 6.4 that the majority of the respondents (32.2%) consume up to 50gms of ghee daily.

Exhibit: 6.5 Analysis of Daily Consumption of Cheese

	Cheese	Frequency	Valid Per cent
Valid	Nil	375	62.5
	Up to 50 gms	131	21.8
	100 – 200 gms	25	4.2

	50 – 100 gms	46	7.7
	Above 200 gms	23	3.8
	Total	600	100.0

The preceding exhibit 6.5 exhibits the information about the daily consumption of cheese. After analysis, it was obtained that 62.5% of respondents do not consume cheese, 21.8 % of respondents consume up to 50 gms cheese, 7.7% respondents consume 50 – 100gms cheese, 4.2% respondents consume 100 to 200 gms cheese and 3.8% respondents consumes 200 gms or above 200 gms cheese, these are the overall daily consumption of cheese. It is found from Exhibit 6.5 that the majority of the respondents (62.5%) do not consume cheese daily.

Exhibit: 6.6 Analysis of Daily Consumption of Curd

	Curd	Frequency	Valid Per cent
Valid	Nil	86	14.3
	Up to 100ml	115	19.2
	100 – 200ml	127	21.2
	200 – 500ml	182	30.3
	Above 500ml	90	15.0
	Total	600	100.0

The above Exhibit 6.6 highlights the daily consumption of curd. After analysis, it was obtained that 14.3% of respondents do not consume curd, 19.2 % of respondents consume up to 100ml curd, 21.2 % of respondents consume 100 to 200ml curds, 30.3% respondents consume 200 – 500ml curd and 15.0% respondents consume 500ml, or above 500ml curd, these are the overall daily consumption of curd. It is found from Exhibit 6.6 that the majority of the respondents (30.3%) consume up to 200-500ml of curd daily.

Exhibit: 6.7 Analysis of Daily Consumption of Buttermilk

	Buttermilk	Frequency	Valid Per cent
Valid	Nil	112	18.7
	Up to 200ml	121	20.2
	200 – 500ml	142	23.7
	500ml – 1litre	85	14.2
	Above 1 litre	140	23.3
	Total	600	100.0

The preceding Exhibit 6.7 describes the daily consumption of buttermilk. Here after analysis, it was obtained that 18.7% of respondents do not consume buttermilk, 20.2 % of respondents consume up to 200 ml buttermilk, 23.7% respondents consume 200 to 500 ml buttermilk, 14.2% respondents consume 500ml to 1ltr buttermilk and 23.3% respondents consumes 1ltr or above 1ltr buttermilk, these are the overall daily consumption of buttermilk. It is found from Exhibit 6.7 that the majority of the respondents (23.7%) consume up to 200-500ml of buttermilk daily.

Ranking Based on The Preference of The Consumers Toward Dairy Products

Exhibit 6.8 shows the mean ranks of the consumer's consumption preferences towards these dairy products.

Exhibit: 6.8 Analysis of Friedman's Test For Significant Difference Between Mean Rank and Consumers' Consumption of Packaged Dairy Products.

Ho: There is no significant difference in mean ranks for the respondent's consumption pattern of packaged dairy products.

Dairy products	Mean Rank	Chi-Square	p-value
Milk	5.67	1884.242	0.000
Butter	3.10		
Curd	4.08		
Ghee	4.28		
Buttermilk	2.30		
Cheese	1.58		

Note:**denotes significance at 1% interval

The above Exhibit 4.8 shows that since $P\text{-value} < 0.01$. Hence the hypothesis is not accepted. All the variables differs from the others in mean ranks. It is found that there is a significantly substantial variation in customers' consumption for packaged dairy products. Based on the mean rank, milk (5.67) is the highly consumed dairy product, followed by ghee (4.28) and curd (4.08). Although, cheese (1.58) is the least consumed by the consumers.

VII. CONCLUSION

Dairy products are preferred food items for the people of Haryana. On the other hand, urban income has been growing faster than rural income, so demand for milk and milk products has rapidly increased. Consumption pattern refers to the pattern of consumption of products. Consumers do not depict similar or common consumption patterns. Most respondents (30.2%) spend 5000-10000 Rs. monthly on dairy products. Most respondents (58.2%) consume more than 1 litre of milk daily. Most respondents (36.7%) do not consume butter daily. Most respondents (32.2%) consume up to 50gms of ghee daily. Most respondents (62.5%) do not consume cheese daily. Most respondents (30.3%) consume up to 200-500ml of curd daily.

There is a significant difference in consuming packaged dairy products. Most respondents consume packaged milk as their first preference, followed by ghee, curd, butter, and cheese. It is also found that packaged cheese is least preferred and consumed by consumers. The study concluded with some recommendations, some of which are: Processors and producers of dairy products should implement modern marketing concepts that focus on the consumers' needs and wants. Also, producers and processors should use a marketing mix to increase sales and create satisfied customers.

References

1. Bohr, B. (2012). Milk production, marketing and consumption pattern at peri urban dairy farms in the mountains: a case from Lohaghat in Uttaranchal. ENVIS Bulletin, Vol. 12(1).
2. Bohr, B. (2012). Milk production, marketing and consumption pattern at peri urban dairy farms in the mountains: a case from Lohaghat in Uttaranchal. ENVIS Bulletin, Vol. 12(1).
3. Borawski, P., Pawlewicz, A. (2006). Economic efficiency of individual farms in the aspect of sustainable development on the example of the Warminko-Mazurskie voivodship. Scientific Journals of the Agricultural University of Wrocław 540. Agriculture LXXXVII, 91-97.
4. Bousbia, A., Boudalia, S., Chelia, S., Oudaifia, K., Amari, H., Benidir, M., Belkheir, B., & Hamzaoui, S. (2017). Analysis of Factors Affecting Consumer Behavior of Dairy Products in Algeria: A Case Study from the Region of Guelma. International Journal of Agricultural Research, 12(2), 93–101.
5. Bytyqi, N., Muji, S., & Rexhepi, A. (2020). Consumer Behavior for Milk and Dairy Products as Daily Consumption Products in Every Household—The Case of Kosovo. Open Journal of Business and Management, 08(02), 997–1003.
6. Economics, A., & Xix, V. (2012). Consumer characteristics influencing milk consumption preference. The Turkey case. Theoretical and Applied Economics, 19(7), 25–52.
7. FAO. 2021. World Food and Agriculture – Statistical Yearbook 2021. Rome. <https://doi.org/10.4060/cb4477en>
8. FAO. (2021). FAO publications catalogue 2021: April.
9. FAOSTAT. (2014). Retrieved from <http://faostat.fao.org>
10. Government of Haryana Animal Husbandry & Dairying Department. Integrated Sample Survey Report. (2015). Retrieved from <http://www.pashudhanharyana.gov.in/sites/default/files/documents/ISS%20Report/ISS%20Report%20for%20the%20year%202015-16.pdf>
11. <http://agriexchange.apeda.gov.in>
12. <http://foodprocessingindia.co.in>
13. <http://www.nddb.org>
14. IMARC Group. (2019). Logistics Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024. Retrieved from <https://www.researchandmarkets.com/reports/4775722/logistics-market-global-industry-trends-share>