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Consumer survey for consumption pattern of milk and milk products in Nagpur city

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Abstract

The present study entitled “Consumer survey for consumption pattern of milk and milk products in Nagpur city” was based on the family data collected through household survey in the various municipal wards of Nagpur city during Feb-March 2021. The data were collected from 24 colonies, 2 colonies were selected from each ward and 2 wards were selected from each zone of Nagpur city. The total number of 240 families was interviewed for the collection of data and categories into four income and four family size groups for statistical analysis. A significant correlation was found between the income level and the expenditure on milk and milk products. The consumption varying from 168.01 ml per day in lower income group (monthly income up to Rs. 20,000) to 211.54 ml in high group (monthly income above Rs. 60,000) with an average per head consumption rate of 193.47 ml per day. The most of the consumers (52.91%) had a habit of utilizing milk in the form of tea or coffee and consuming as such. There was quite less number of families (26.25%) preferred ghee for daily consumption followed by curd (5.83%) and other products (15.83%). The more number of families preferred curd (89.57%) for the occasional consumption followed by ghee (32.50%), shrikhand (37.08%), paneer (23.33%) and other products (61.67%). Majority of the families preferred boiled milk (96.25%) for consumption whereas (93.33%) families have opinion that the raw milk was not good for health. The study concluded that the income and family size are most important factors while studying on consumption pattern of milk and milk products and both have wide impact on consumption pattern of milk and milk products but there is need to be undertaken deep studies with the other socio-economic factors like age, education, occupation, etc.

Keywords: consumption, income, family size, curd, ghee, milk and milk products

Introduction

Dairy plays a significant part in numerous aspects of Indian society, including cuisine, religion, culture, and the economy. India has the world's largest dairy herd with over 300 million bovines, producing over 187.7 million tonnes of milk. India is first among all countries in both production and consumption of milk. Most of the milk is domestically consumed, though a small fraction is also exported. Indian cuisine, in particular North Indian cuisine, features a number of dairy products like paneer. Milk and dairy products play a part in Hindu religious practice and legend. (Anonymous, 2020) [2]

Taking into consideration of availability and per capita consumption of the milk by the consumers, consumption can also depend upon the determining factors of demand are the income of the consumer, price of milk, availability of the milk and its products, utilization in the family and the age groups of the family consumers, taste and habits of the consumer, value of rupee in the country, purchasing power of the person, range of substitutes and knowledge about usefulness of milk.

Present investigation have been undertaken to study the consumption pattern of milk and milk products into different income and size group of the families in Nagpur city. The study has also carried out to analyze the impact of income on consumption of milk and milk products. The study is important to obtain an idea about nutritional level of the consumers. This study have not only enlighten regarding present trends of milk consumption in urban population but also help to find out its association with certain variables like age, sex, income, occupation, family size, etc.

Material and Methods

The information was obtained from the stratified random information of the consumers from 240 households in 24 colonies. 2 Colonies selected from each 2 wards of different regions in Nagpur city i.e. East, West, North, South, Central and South west zone.

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Classification of consumers

Classification of consumers according to income group

Sr. No.	Category	Monthly Income
1	Lower	Up to Rs. 20,000
2	Lower middle	Rs. 20,001 to 40,000
3	Upper middle	Rs. 40,001 to 60,000
4	High	Above Rs. 60,000

Source: Palanisamy (2017) ^[11]

Classification of consumer according to size of family

Sr. No.	No. of family members
1	1 to 3
2	4 to 6
3	7 to 9
4	Above 9

Source: Kamble (2010) ^[9]

Statistical tools used in Analysis

The data were analyzed statistically by using appropriate methods

i.e. correlation coefficient and chi-square test.

Results and Discussion

The correlation coefficient was found to be highly significant. Out of total consumer households 15.41 per cent households were spend up to Rs. 750 on milk and milk products from different income groups. On an average 34.58 per cent of the consumers from different income group incurred the expenditure up to Rs. 1,500 while 36.25 per cent consumers spent up to Rs. 2,250 on it. There were 13.75 per cent consumers spent above Rs. 2,250 for the consumption of milk and milk products. (Table 1)

Table 1: Relationship of income levels of consumers with their expenditure on milk and milk products

Sr. No.	Income group	N N=240	Expenditure on milk and milk products per month (Rs.)			
			Up to Rs. 750	Rs. 751 to 1,500	Rs. 1,501 to 2,250	Above Rs. 2,250
1.	Up to Rs. 20,000	51 (21.25)	16 (31.37)	33 (64.70)	2 (3.92)	0 (0.00)
2.	Rs. 20,001 to 40,000	88 (36.66)	18 (20.45)	26 (29.54)	41 (46.59)	3 (3.40)
3.	Rs. 40,001 to 60,000	72 (30.0)	3 (4.16)	21 (29.16)	36 (50.0)	12 (16.66)
4.	Above Rs. 60,000	29 (12.08)	0 (0.00)	3 (10.34)	8 (27.58)	18 (62.06)
Total		240 (100)	37 (15.41)	83 (34.58)	87 (36.25)	33 (13.75)

(Figures in brackets indicate percentages.) $r = 0.90$ (significant at 1% level)

Table 2: Relationship of family size of consumers with their expenditure on milk and milk products

Sr. No.	Family size	N N=240	Expenditure on milk and milk products per month			
			Up to Rs. 750	Rs. 751 to 1,500	Rs. 1,501 to 2,250	Above Rs. 2,250
1.	1 to 3 members	51 (21.25)	16 (31.37)	27 (52.94)	8 (15.68)	0 (0.00)
2.	4 to 6 members	163 (67.916)	21 (12.88)	54 (33.12)	68 (41.71)	20 (12.26)
3.	7 to 9 members	21 (8.75)	0 (0.00)	2 (9.52)	10 (47.62)	9 (42.86)
4.	Above 9 members	5 (2.084)	0 (0.00)	0 (0.00)	1 (20.0)	4 (80.00)
Total		240 (100)	37 (15.41)	83 (34.58)	87 (36.25)	33 (13.75)

(Figures in brackets indicate percentages) $r = 0.49$ (significant at 1% level)

It is clear that there is a significant relationship between the family size and expenditure incurred for milk and milk products. The presented data shows that the increased in

expenditure spent for milk and milk products with increased in family size and vice versa. (Table 2)

Table 3: Relationship of income levels of consumers with the quantity of milk purchased by them

Sr. No.	Income group	N N=240	Quantity of milk purchased (per day)			
			Up to 500 ml	501 to 1,000 ml	1,001 to 1,500 ml	Above 1,500 ml
1.	Up to Rs. 20,000	51 (21.25)	28 (54.90)	23 (45.10)	0 (0.00)	0 (0.00)
2.	Rs. 20,001 to 40,000	88 (36.66)	39 (44.32)	29 (32.95)	19 (21.59)	1 (1.14)
3.	Rs. 40,001 to 60,000	72 (30.0)	33 (45.83)	28 (38.899)	6 (8.33)	5 (6.94)
4.	Above Rs. 60,000	29 (12.08)	3 (10.34)	14 (48.28)	4 (13.79)	8 (27.59)
Total		240 (100)	103 (42.92)	94 (39.17)	29 (12.08)	14 (5.83)

(Figures in brackets indicate percentages) Correlation coefficient ($r = 0.46$) (significant at 1% level)

From Table 3 it is observed that, about 42.92 per cent of the consumers purchased up to 500 ml of milk by the different income groups whereas only 5.83 per cent of the consumers

purchased above 1,500 ml of milk per day. Maximum 27.59 per cent consumers from upper income group purchase above 1,500 ml milk per day.

Table 4: Relationship between income levels of consumers and their mode of consumption of milk

Sr. No.	Income group	N N=240	Mode of consumption					Total
			As it is	In tea or coffee	Both in tea or coffee and milk	In shape of milk products	In all above forms	
1.	Up to Rs. 20,000	51 (21.25)	2 (3.92)	13 (25.49)	26 (50.98)	8 (15.68)	11 (21.56)	60
2.	Rs. 20,001 to 40,000	88 (36.66)	7 (7.95)	15 (17.04)	42 (42.73)	20 (22.73)	31 (35.23)	115
3.	Rs. 40,001 to 60,000	72 (30.0)	6 (8.33)	13 (18.05)	43 (59.72)	21 (29.17)	31 (43.05)	114
4.	Above Rs. 60,000	29 (12.08)	4 (13.79)	2 (6.89)	16 (55.17)	11 (37.93)	15 (51.72)	48
Total		240 (100)	19 (7.91)	43 (17.92)	127 (52.91)	60 (25.0)	88 (36.66)	337

(Figures in brackets indicate percentages.) $X^2 = 12.11$ (Non-significant)

From data presented it is shows that 52.91 per cent of the consumers from different income groups consume the milk both in tea or coffee and as it is i.e. for drinking whereas 17.92 per cent of the consumers used the milk for the preparation of tea or coffee. 36.66 per cent of the consumers took the milk in all the forms. It is found that as the income

increases the mode of consumption of milk in all the forms is also increased. (Table 4)

The chi square value (12.11) is non-significant indicating thereby that the income levels of consumers do not bear relationship with their mode of consumption of milk.

Table 5: Occasional consumption of milk products by different income groups

Sr. No.	Income group	N N=240	Type of milk products					Total
			Curd	Shrikhand	Ghee	Paneer	Other products	
1.	Up to Rs. 20,000	51 (21.25)	48 (94.12)	12 (23.53)	8 (15.69)	4 (7.84)	25 (49.02)	97
2.	Rs. 20,001 to 40,000	88 (36.66)	77 (87.50)	31 (35.23)	21 (23.86)	12 (13.64)	49 (55.68)	190
3.	Rs. 40,001 to 60,000	72 (30.0)	64 (88.89)	31 (43.06)	33 (45.83)	18 (25.0)	51 (70.83)	197
4.	Above Rs. 60,000	29 (12.08)	25 (86.21)	15 (51.72)	16 (55.17)	22 (75.86)	23 (79.31)	101
Total		240 (100)	214 (89.17)	89 (37.08)	78 (32.50)	56 (23.33)	148 (61.67)	585

(Figures in brackets indicate percentage.)

From Table 5 it is noticed that out of total consumers, 89.17 per cent consumed curd and 37.08 per cent consume shrikhand occasionally. While 32.50 per cent consumers consume ghee and 23.33 per cent consume paneer occasionally. In case of other milk products such as cheese, fermented milk products, lassi, milk shakes, khoa and khoa based products like gulabjamun, pedha, burfi and other sweets, etc. are preferred by 61.67 per cent consumers for occasional consumption.

It is also observed that as the income increases consumption of milk products also increases. The choices of milk products are quiet affected with the income group of the consumers.

Conclusion

Hence, it is concluded that the income and family size are most important factors while studying on consumption pattern of milk and milk products and both have wide impact on consumption pattern of milk and milk products but there is need to be undertaken deep studies with the other socio-economic factors like age, education, occupation, etc.

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