

A study on consumer preference towards fluid milk in Kerala with special reference to Thrissur district

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Abstract

With rising income and increased production, milk has become an important part diet of the people in Kerala. It is consumed as raw milk and pasteurized milk. Differing socio-economic factors in terms of gender, age, education, employment, income and area have greater influence on frequency of milk consumption and the preference of milk type. The study analysed the consumers' milk consumption pattern and milk choice behavior under different socio-economic and demographic variables. Milk consumed mostly once in a day and it is used in various forms. The study revealed that the socio-economic characteristics of individuals play a significant role in their milk consumption rate and consumption preference. Policy makers should support the dairy industry to increase the production and consumption of pasteurized milk.

Key words: Pasteurized milk, Milk consumption pattern, Milk choice behavior, Socio-economic factors.

Introduction

Milk has been acknowledged as the first perfect food for humans and is well accepted by all age group. Considering as a body building food milk is also known to be a good source of protein, calcium, vitamins, minerals and fat. It plays a key role in infant feeding and alleviating nutritional poverty in all other age groups. With rising income and increased production, milk has become an important part of diet. The significance and nutritional value of milk in human diet is high and is of particular importance among growing infants and lactating mothers.

Intake of sufficient amount of milk and milk products is recommendatory for healthy life style of human beings. However, consumers' fluid milk consumption behavior and preference may vary among countries. More specifically, differences have been observed in fluid milk consumption pattern of developed and developing countries. In India per capita consumption of milk at 97 liters per year is way below that of western countries like US, which boasts per capita consumption of 285 liters per year, or the European Union which consumes 281 liters per capita per year.

Milk is consumed as raw milk and pasteurized milk in India. Raw milk, also called unpacked fluid milk in India, refers to milk that is produced at farms/households without any control and pasteurized milk, also called as packed fluid milk, refers to milk produced under fluid milk technology such as pasteurization or UHT. The fluid milk consumption pattern in India is quite different from most of the

other countries. For instance, Indians have a strong preference for raw milk over pasteurized milk. However, in the recent years, significant changes have taken place in the fluid milk consumption patterns of Indian consumers. According to a recent report by Abdulla (2014), food safety, quality and traceability concerns are becoming of increasing importance to the Indian consumers and there has been a move towards more packaged milk options.

Previous studies have also highlighted the association of socioeconomic and demographic differences with consumers' fluid milk consumption pattern. Variations in the socio-economic and demographic factors affect milk consumption. Differing socioeconomic factors in terms of gender, age, education, employment, income, and area have been identified to have influence on frequency of milk consumption and the preference of milk type.

Although a few past studies focused on fluid milk consumption decision of consumers in India, there no study was found to examine the association of socioeconomic and demographic factors with fluid milk consumption decision in Kerala. Therefore, given the changing scenario concerning the changing preferences of fluid milk, the present research aims to study the consumption pattern of fluid milk of consumers of Kerala by investigating whether the frequency of milk consumption and preference of milk type i.e. raw or pasteurized milk varies across socio-economic and demographic variables, specifically, gender, age, education, employment, income, and area.

Objectives of the study

1. To study the consumers milk consumption pattern.
2. To study the consumer milk choice behavior.

Research methodology

The study was conducted by using primary data. Primary data were collected from the selected dairy consumers by employing a structured questionnaire. Both positive and negative statements were included in the instrument to avoid statement predictability. Data on the questionnaire were collected via face to face scheduling approach. Data were collected from 60 respondents by using multistage cluster cum convenience sampling.

Milk consumption pattern was measured using close ended questions regarding type, frequency and the amount of milk consumption. Other details like storage, usage, reasons for consumption etc were measured using descriptive and close ended statements. A set of five milk attributes were selected for the study and these five different attributes were conceptualized and measured using five point Likert scale. In order to gain meaningful information from the data collected multiple statistical techniques such as frequency, percentages, mean, grand mean, standard deviation, correlation etc were employed.

RESULT ANALYSIS

Milk consumption pattern

As far as consumption of raw and pasteurized milk was concerned the consumption of the both was equivalent in the participating consumers. Around 54 percent of consumers used pasteurized milk and 46 percent used raw milk. Most preferred milch animal was cow (92%). More than half (60%) preferred full cream milk followed by toned milk (25%). Only 12 percent and 3 percent of consumers favour double toned and long-shelf life milk. Around 49% consumed milk once in a day followed by 40% who consumed milk twice a day. Only 7% and 4% consumed milk more than twice a day and few times a week respectively. To a great extent, milk was consumed in boiled form (92%). Regarding quantity of milk consumption per day, majority of consumers (59%) consumed 0.5 liters followed by those (33%) who consumed 0.5-1 liter of milk. Apart from direct consumption, milk is used for tea making (82%) curd making (55%) cooking and baking (45%) cheese making (24%) and feeding pet animals (14%).

Prime time for consuming milk was with breakfast (48%), after dinner (32%) and with snacks (20%). Majority of consumers (75%) store milk in refrigerator and only a small percentage of consumers (3%) do not store as they consume milk directly.

With referenceto thereasonforconsuming milk, 51percentof the respondentsbelieve milk is good for health, 38 percentconsideritasanimportantpartofthedietand28percentclaimto be habitual to it.94 percent of the respondents who did not consume milk reported dislike of taste and/or smell of milk as thereasonfor non-consumption of milk. Remaining 6 percent stated digestion or allergy problems related with milk as the reasons for non-consumption of milk.

MILK CONSUMPTION PATTERN AND SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES

Gender

Even though there was no significant relationship between gender and types of milk consumed, the percentage of pasteurized milk consumption was more in both male (57%) and female (60%) than the raw milk consumption. As far as gender and frequency of milk consumption is concerned there was no significant association. These revealed that gender as a socio-demographic variable was not linked with the consumption pattern of milk.

Age

The result revealed that there was a significant relationship between age and consumption pattern of milk. The finding highlighted those consumers of age group under 25 (58%) were the highest percentage of raw milk consumers as compared with the other age groups of 26-50 (42%) and above 50 (38%). But there was no significant relationship between age and consumption frequency of milk. All the three age group in consistence with the total percent of consumption frequency preferred milk once in a day followed by twice in a day and very limited number of consumers favoured milk consumption more than twice and a few time a week.

Education

There was significant relationship between levels of education and the type of milk consumption. The percentage of consumption of raw milk was highest among those who studied till school level (75%) followed by graduate (45%) and was lowest among post graduates (31%) and doctorates (28%). This suggested that with increase in level of education the level of preference of pasteurized milk increases. But a non-significant relationship existed between level of education and frequency of consumption, Majority of respondents in all education groups preferred drinking milk one a day followed by twice a day.

Income

The result revealed that income was significantly associated with the type of milk consumed. The consumers belonging to the upper class (60%) have the highest percentage of pasteurized milk consumption and those belonging to lower class (50%) have the highest percentage of raw milk consumption. In the case of middle class, high percentage of pasteurized milk consumption (59%) was reported comparative to raw milk consumption (40%). A significant relationship was found between milk consumption frequency and income. The percent of consumption of milk on twice a day basis was highest among consumers with highest income groups (51%) followed by the next income groups (40%) and lowest among those with the lowest level of income (31%).

Employment

There was significant relationship between the employment and the type of milk consumed. The highest percentage of self employed people (71%) consumed raw milk and people employed in private sector (62%) had the highest percentage of pasteurized milk consumption. Further, the respondents associated with government sector more or less equally preferred the raw and pasteurized milk. There was also had a significant relationship between consumption frequency and employment. Majority of government employees (52%) consumed milk twice a day followed by self employed (48%) and lowest among those not working (32%).

Area

The area was significantly associated with the type of milk consumed. Metropolitan area (75%) had the higher pasteurized milk consumption. Urban and suburban area respondents (55%) preferred raw milk compared to pasteurized milk consumption (45%). But there were not significant relationship between area and consumption frequency. Majority of respondents irrespective of the area of residence preferred drinking milk once in a day followed by twice a day.

Milk attributes and Socio-economic and demographic variables

Here the study concentrates on predicting the consumers' milk choice behavior i.e., the consumers' orientation towards raw and pasteurized milk based on socio-economic and demographic variables and milk attributes.

Considering the socio-demographic variable gender, the finding had revealed significant differences in the importance attached to three attributes, namely nutritional, cost and richness. Males in comparison with the females considered milk to be richest, of more nutritious value and less expensive to other liquid drinks. The result had also revealed that no significant difference between male and female respondents concerning the milk attributes such as sensory, convenience, safety and processing.

The finding of the study revealed that there were significant differences concerning milk attribute namely, sensory and convenience based on age of the respondents. The middle aged and older consumers compared with younger consumers were least likely to consider that milk had good sensory properties and as being a convenient product. Males of the older groups showed more importance to the sensory appeal and convenience and availability of milk in comparison with the females of the youngest age groups. Moreover, male youngest age group considered milk to be of higher nutritional value compared to the female youngest age group.

Significant difference was observed relating to milk attributes namely, convenience, safety and richness based on education of respondents. Those with higher education level tended to attach more importance to convenience, safety and richness of the milk in comparison with those with low education level.

With regard to income of the respondents, only one significant difference was observed with regard to the convenience attribute. Consumers with medium and high level of income were more supportive to this attributes that the low level of income group. None of the other milk attributes showed any significant differences based on the income of the respondents. Respondents with higher income and higher education level were placed more importance to the convenience attributes.

Furthermore, the finding revealed that there were no significant differences in the importance attached on various milk attributes based on area. This may because of the segmentation of the geographical location for the study, which included urban/sub urban and metropolitan, which may show similar orientation towards food choice motives.

But pertaining to the employment type, significant differences were observed in convenience, cost and processing. The finding highlighted that the employed people were more concerned with the convenience attributes of milk compared with the unemployed. Cost was of much concern to the unemployed people in comparison with the other groups. Further, people working in the private sector and those who were unemployed were most concerned with processing of milk. Government employees in urban and semi urban area were the most concerned with the sensory appeal and nutritional value of milk and least concerned with the processing of milk in comparison with all the other employment groups in urban and semi urban and metropolitan area.

Milk Choice behavior

The socio-economic and demographic profiles of the customers and the relative importance of they attach to product attributes acts as a important basis in food choice the consumers make. Almost all the attributes such as sensory, convenience, safety, nutrition, cost, processing and richness significantly influenced the milk selection behavior, except

trendy. The finding of the study revealed that the tendency of respondents to choose pasteurized milk is highest when they place greater importance of convenience, safety and processing milk attributes. This is because of the fact that large majority of consumers in Kerala depends on formal market for the purchase of milk. Further the finding revealed that raw milk consumers valued sensory appeal, nutrition, richness cost related milk attributes the most. This may be because of the belief among the customers that raw milk is healthier and nutritious than pasteurized milk. The finding also revealed that the consumers' willingness to choose pasteurized or raw milk depends on consumers' socio-demographic background in terms of their employment status and area of residence or geographical location. With reference to various studies relating, income and education as primary determinants of milk choice behavior of consumers.

Conclusion

The recent changes due to liberalization and globalization, including economic, demographic, social and life style changes have resulted in changes in consumption pattern and preference of consumers in Kerala. Packed fluid milk consumption is increasing very rapidly. This was also reflected in the sample collected for investigating the milk consumption pattern. Consumers of milk in Kerala have a higher inclination towards full- cream milk in packed form and cow as the milching animal. Milk is consumed mostly once in a day followed by twice a day indicating that milk is an everyday part of the diet of consumers in Kerala. Milk is used in various forms, other than as plain drink, including tea making, curd making and cooking and baking. Prime time consumption of milk is with breakfast followed by after dinner. The socio-economic characteristics of individuals play a significant role in their milk consumption rate and consumption preference. The result highlighted that individuals who are employed and those with higher income consume more milk than other. Enhancement of income and employment status of the people will be the important factors influencing the per capita consumption of milk. Policy makers, government agencies and the dairy industry should encourage all consumers, especially those from urban and semi urban area and those who are unemployed or associated with government sector to consume more pasteurized milk. In order to change consumers' fluid milk consumption behavior, policy makers should support the dairy industry for increasing production and consumption of the pasteurized milk and also support in educating the consumers about the health and safety concern of drinking raw milk.

Reference

1. Watanabe, Y., Suzuki, N. and Kaiser, H.M. (1998), Factors affecting consumers' choice of beverages in Japan Agribusiness: An International Journal, Vol. 14 No. 2, pp. 147 – 156
2. Ciavolino, E., & Dahlgaard, J. J. (2007). Customer satisfaction modeling and analysis: A case study. Journal of Total Quality Management, 18(5), 545-554.
3. Huang, D. Y., & Lin, C. Y. (2005). Customer-oriented financial service personalization. Industrial Management & Data systems, 105(1), 26-44.
4. Kannan, V. R., & Tan, K. C. (2005). Just in time, total quality management, and supply chain management: understanding their linkages and impact on business performance. Omega, 33, 153-62.
5. Parvatiyar, A., & Sheth, J. N. (2001). Conceptual framework of customer relationship Management. Customer Relationship Management: Emerging Concepts, Tools and Applications, 3-25. Tata/McGraw-Hill, New Delhi, India.
6. Zeithaml, V. A. (1988). Customer perceptions of price, quality and value: A Means end model and synthesis of evidence. Journal of Marketing, 60, 31-46.
7. Yayar, R. (2012), Consumer characteristics influencing milk consumption preference. The Turkey case Theoretical and Applied Economics, Vol. 7 No. 7, pp. 25 - 42 .
8. Wolf, C.A., Tonsor, G.T. and Olynk, N.J. (2011), Understanding US consumer demand for milk production attributes Journal of Agricultural and Resource Economics, Vol. 36 No. 2, pp. 326 - 342.
9. Tiryaki, G.Y. and Akbay, C. (2010), Consumers fluid milk consumption behavior in TURKEY: an application of multinomial logit model Quality & Quantity , Vol. 44 No. 1, pp. 87- 98.
10. Singh S, Srivastava D N and Kapoor C M (1995), Factors influencing consumers' preference for type of milk supply in Hisar city, Indian Journal Of Animal Production And Management, Vol. 11, pp. 226 - 228.
11. Saba, A., Moneta, E., Nardo, N. and Sinesio, F. (1998) , Attitudes, habit, sensory and liking expectation as determinants of the consumption of milk Food Quality and Preference , Vol. 9 No. 1 -2, pp. 31 - 41.