

Original Research Article

A study on consumer preference towards indigenous cow milk in Coimbatore city

Abstract

The demand for milk from indigenous cows had greatly grown over the time, particularly in India. There is a shift toward the consumption of milk from indigenous cows to milk from cross breed cows for a variety of reasons, including the health benefits and other attributes like taste, quality and freshness. The objective of the study was to understand the consumer buying behaviour and preference towards consumption and purchase of indigenous cow milk. Data on purchase and consumption was collected from 50 indigenous cow milk consumers in Coimbatore city through convenience sampling. Primary data was collected through a well-structured questionnaire. Relative Importance Index and Garrett's ranking technique was carried out to analyse the information collected. The results of the study revealed that comparatively higher price and less availability of indigenous cow milk was the major limitation for the consumers in purchasing indigenous cow milk.

Keywords: Indigenous cow milk, Consumer buying behaviour, Consumer preference, Factors influencing, Constrains.

INTRODUCTION

Milk from dairy cows has been regarded as a nature's perfect food, providing an important source of nutrients including high quality proteins, carbohydrates and selected micronutrients. More than 95 percent of the cow milk proteins are constituted by caseins and whey proteins. Among the caseins, beta casein is the second most abundant protein and has excellent nutritional balance of amino acids^[1]. In recent years, a brand-new variety of cow's milk has entered the dairy market and both consumers and marketers are interested in this milk called indigenous cow milk which contains A2 milk protein. In the past, cows only produced milk with the A2 type of beta-casein. But now a days, A1 proteins make up the majority of the milk sold at the local grocery shops^[2]. People who consumes indigenous cow milk are less likely to develop ailments including coronary heart disease, Type -1 diabetes, sudden infant death syndrome and autism and they also experience several health benefits like improved bowel movements and less bloating as it does not contain betacasomorphin-7 (BCM7), which is present in cross breed cow milk and exotic cow milk due to its histidine position^[3]. As more people are becoming health conscious, the idea of indigenous cow milk business has once again become popular as people began to

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understand its advantages. As a result, the market for this milk is also expanding quickly. Recently, a number of dairy businesses in India, both local businesses and some organised players began charging consumers more for indigenous cow milk [4]. As people are highly concerned about their fitness and health, the demand for indigenous cow milk is increasing. There are many factors like quality of the product, health benefits, easy accessibility, product attributes and word of mouth were influencing the people to purchase indigenous cow milk [5]. There are also many limitations and constraints faced by the consumers in purchase of indigenous cow milk. Therefore this study would focus on the consumer buying behaviour, factors influencing and constraints in the purchase and consumption of indigenous cow milk with the following objectives.

1. To study the consumer buying behavior and factors influencing towards indigenous cow milk
2. To analyze the constraints in purchase and consumption of indigenous cow milk.

Review of Literature

Revathi (2009)^[6] studied the consumer satisfaction in peri-urban areas of Trichy for packet milk and revealed that most of the packet milk consumers were satisfied with the attributes like taste, thickness of milk and the consumers were considering the packet milk were suitable for infants and helps in easy digestion. Apart from these factors, packet milk were considered to be good for making curd and milk sweets.

Trung et al. (2014)^[7] study showed that income and easy availability of milk were the major factors influencing the rural milk consumers in the Northern Vietnam.

Kludia Kurajdova et al. (2015)^[8] study analysed the psychological and personal factors influencing the consumption and purchase of milk. The result of the study revealed that most of the Slovak respondents purchases milk and very few respondents were non-purchasers. "Taste" was the one strong influencing factor said as a primary attribute by the both purchaser and non-purchaser of milk. The second common factor was that the milk was considered as healthy product by the consumer. Non-consumer of milk felt that they cannot consume milk due to health issue but milk was preferred or purchased by other family member.

Wasim Ahmed et al. (2016)^[9] in his study suggested that accessibility of milk products to the retailers and to the consumers was not up to the coveted state. The organization needs to strengthen its deals limited time exercises by improving commercials in nearby TV stations, hoardings, daily paper and shows. The study also investigated how people settle on choice to spend their accessible assets like time and cash.

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Huan Quang *et al.* (2019) ^[10] study examined the factors affecting student's choice of buying fresh milk in Vietnam. The result of the study concluded that there were five factors affecting the consumer's decisions. Those were product quality, price, advertisement and services, accessibility, and influencing group's attitude towards the brand, But most of the students were considering the last three than the first two factors i.e., quality and price.

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Merlino *et al.* (2021) ^[11] studied the consumer preference based on certain factors and two different milk consumer groups (fresh pasteurized milk consumer and ultra-high temperature treated milk consumer) was taken for the study. Price, taste, fat content and convenience were the major factors for preferring both the milk and origin of the product was a specific factor considered by UHT treated milk consumers.

MATERIALS AND METHODS

The study was conducted in Coimbatore city of Tamil Nadu with a sample size of 50 indigenous cow milk consumers. The sampling method used was purposive random sampling. The data was collected through well-structured questionnaire and the information was collected from indigenous cow milk consumers. Relative Importance Index and Garrett's ranking technique were used for analysing and interpreting the data. Relative Importance Index was used to rank the factors that influencing the indigenous cow milk consumers to purchase and consume indigenous cow milk.

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RII was measured using 5 point Likert scale. Weightage was given in such ways that strongly agree carries 5 points and strongly disagree carries 1 point.

RII was calculated using the following equation.

$$RII = \frac{5n_1 + 4n_2 + 3n_3 + 2n_4 + 1n_5}{A * N}$$

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N₁ - Number of respondents for Strongly Agree

N₂ - Number of respondents for Agree

N₃ - Number of respondents for Neutral

N₄ - Number of respondents for Disagree

N₅ - Number of respondents for Strongly Disagree

A (Highest weight) = 5

N (Total No. of respondents) = 50

Garret's ranking technique was used to rank the constraints involved in the purchase and consumption of indigenous cow milk.

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$$\text{Percent position} = \frac{100 \times \sum(R_{ij} - 0.5)}{N_j}$$

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N_j

Where,

R_{ij} = Ranking given for the i^{th} factor by the j^{th} respondents

N_j = Number of variable ranked by j^{th} respondents.

RESULTS AND DISCUSSION

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Table 1: Period of Indigenous Cow Milk Consumption by Sample Respondents

S. No	Period of Consumption	No. of Respondents	Percentage to total
1.	Less than 3 months	1	2.0
2.	3 – 6 months	6	12.0
3.	6 months to 1 year	4	8.0
4.	1 year – 2 years	11	22.0
5.	2 year – 3 years	15	30.0
6.	Greater than 3 years	13	26.0
Total		50	100.0

Source: Primary data

It could be evident from the Table 1 that, 30 percent of the sample respondents were consuming indigenous cow milk for the period of 2 years to 3 years followed by greater than 3 years (26 percent), 1 to 2 years (22 years), 3 to 6 months (12 percent), 6 months to 1 year (8 percent) and less than 3 months (2 percent). It was concluded that most of the consumers of indigenous cow milk were buying this milk for a period of 2 to 3 years due to its popularity in recent years for its health benefits.

Comment [MF65]: It could be evident from Table 1 that, 30 per cent of the sample respondents were consuming indigenous cow milk for the period of 2 years to 3 years followed by greater than 3 years (26 per cent), 1 to 2 years (22 years), 3 to 6 months (12 per cent), 6 months to 1 year (8 per cent) and less than 3 months (2 per cent).

Table 2: Source of Awareness about Indigenous cow milk by the Sample Respondents

S. No	Particulars	No. of Respondents	Percentage to total
1.	Friends/Family members	20	40.0
2.	Social Media	10	20.0
3.	TV	1	10.0

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4.	Display in Retail Store	5	4.0
5.	Radio	0	0.0
6.	News Paper	2	2.0
7.	Doctor	12	24.0
Total		50	100.00

Source: Primary data

From the Table 2, it was evident that most of the indigenous cow milk consumers were aware about indigenous cow milk by friends & family members (40.0 percent) followed by doctor (24.0 percent), social media (20.0 percent), television (10.0 percent), display in retail store (4.0 percent), newspaper (2.0 percent) and no sample respondent was aware by radio. It was concluded that indigenous cow milk had become popular with the word of mouth by its consumers.

Table 3: Purchase quantity and purchase frequency of indigenous cow milk

Quantity (ml/day)	Frequency				
	Daily	Alternate days	Twice a week	Weekly	Total
250 ml	3 (6.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (6.0)
500 ml	23 (46.0)	1 (2.0)	1 (2.0)	0 (0.0)	25 (50.0)
750 ml	0 (0.0)	1 (2.0)	1 (2.0)	0 (0.0)	2 (4.0)
1000 ml	7 (14.0)	6 (12.0)	3 (6.0)	1 (2.0)	17 (4.0)
1500 ml	0 (0.0)	2 (4.0)	1 (2.0)	0 (0.0)	3 (6.0)
Greater than 1500 ml	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Total	33 (66.0)	10 (20.0)	6 (12.0)	1 (2.0)	50 (100.0)

Source: Primary data

It was concluded from the Table 3 that, most of the sample respondents of indigenous cow milk were buying 500 ml (50.0 percent) followed by 1000 ml (34.0 percent), 250 ml (6.0 percent), 1500 ml (6 percent) and 750 ml (4.0 percent). As the price of indigenous cow milk was comparatively high, most of the consumers were buying only 500 ml of milk. Majority of the sample respondents purchased indigenous cow milk daily (66.0 percent) followed by alternate days (20.0 percent). Nearly 12.0 percent of the sample respondents purchased twice a week followed by weekly (2.0 percent). Nearly 46.0 percent of the sample respondents were buying 500 ml of milk in a daily basis.

Table 4: Source and preferred form of purchase of Indigenous cow milk

Comment [MF67]: From Table 2, it was evident that most indigenous cow milk consumers were aware of indigenous cow milk through friends & family members (40.0 per cent) followed by doctors (24.0 per cent), social media (20.0 per cent), television (10.0 per cent), display in a retail store (4.0 per cent), newspaper (2.0 per cent) and no sample respondent was aware by radio. It was concluded that indigenous cow milk had become popular with the word of mouth by its consumers.

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Source	Form of milk		
	Loose milk	Packed milk	Total
Local Vendor	3 (6.0)	0 (0.0)	3 (6.0)
Dairy store	1 (2.0)	8 (16.0)	9 (18.0)
Organic store	0 (0.0)	5 (10.0)	5 (10.0)
Departmental store	0 (0.0)	0 (0.0)	0 (0.0)
Online	0 (0.0)	33 (66.0)	33 (66.0)
Total	4 (8.0)	46 (92.0)	50 (100.0)

Source: Primary data

It was understood from Table 4 that, 66.0 percent of the sample respondents purchased the indigenous cow milk through online followed by dairy store (18.0 percent), organic store (10.0 percent) and local vendor (6.0 percent). Almost all of the indigenous cow milk consumers preferred packed milk (92.0 percent) followed by loose milk only (8.0 percent). It could be understood that the major source of loose milk was local vendor and the sample respondents opined that there was a very low possibility of getting loose milk in city and the only source was packed milk.

Comment [MF69]: It was understood from Table 4 that, 66.0 per cent of the sample respondents purchased the indigenous cow milk online followed by dairy stores (18.0 per cent), organic stores (10.0 per cent) and local vendors (6.0 per cent). Almost all of the indigenous cow milk consumers preferred packed milk (92.0 per cent) followed by loose milk only (8.0 per cent). It could be understood that the major source of loose milk was local vendors and the sample respondents opined that there was a very low possibility of getting loose milk in the city and the only source was packed milk.

Table 5: Indigenous cow milk product preference

S. No	Milk products	No. of Respondents	Percentage to total
1.	Paneer	12	24.0
2.	Curd	4	8.0
3.	Butter milk	0	0.0
4.	Ice cream	3	6.0
5.	Butter	1	2.0
6.	Cheese	0	0.0
7.	Milk sweet	17	34.0
8.	Ghee	13	26.0
	Total	50	100.0

Source: Primary data

It could be inferred from the Table 5 that, majority of the indigenous cow milk sample respondents preferred milk sweet (34.0 percent) followed by ghee (26.0 percent), paneer (24.0 percent), curd (8.0 percent), Ice cream (6.0 percent) and butter (2.0 percent).

Comment [MF70]: It could be inferred from Table 5 that, the majority of the indigenous cow milk sample respondents preferred milk sweet (34.0 per cent) followed by ghee (26.0 per cent), paneer (24.0 per cent), curd (8.0 per cent), Ice cream (6.0 per cent) and butter (2.0 per cent).

Table 6: RII of factors influencing the consumer preference for indigenous cow milk

S. No	Factors	RII	Rank
1.	Healthy	0.880	I
2.	Milk freshness	0.756	II

3.	Liked by family members	0.748	III
4.	Quality	0.740	IV
5.	Door delivery	0.712	V
6.	Traditional milk	0.708	VI
7.	Doctors suggestion	0.704	VII
8.	Tastes good	0.692	VIII
9.	Suggested by friends	0.688	IX
10.	Reasonable price	0.588	X
11.	Accessible	0.568	XI
12.	Attractive packaging	0.564	XII
13.	Certified milk	0.528	XIII
14.	Advertisement	0.348	XIV

The Relative Importance Index values presented in the table 6 indicated that healthiness, milk freshness, family member's likeliness, Quality and door delivery were the relatively important factors which comes under the first five ranks with RII score of 0.880, 0.756, 0.748, 0.740 and 0.712 respectively for influencing consumer preference for Indigenous cow milk. The other factors were also included for the study. Traditional milk, doctor's suggestion, tastes good, suggested by friends, reasonable price, accessible, attractive packaging, certified milk and advertisement were the other factors influencing the consumer preference for indigenous cow milk.

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Table 7: Constraints in Purchase and Consumption of Indigenous cow milk

S. No	Constraints	Average Score	Rank
1.	High Price	75.04	I
2.	High demand	61.36	II
3.	Long Distance	49.94	III
4.	Low quality milk	42.08	IV
5.	Soreness of milk	37.24	V
6.	Difficult to differentiate	34.34	VI

The results from Table 7 showed that, 75.04 percent of the sample respondents reported that high price of the indigenous milk was the main constraint followed by high demand of milk (61.36 percent) were the most limiting attribute that influences the consumers in deciding to purchase and consume indigenous cow milk.

Comment [MF76]: The results from Table 7 showed that 75.04 per cent of the sample respondents reported that the high price of indigenous milk was the main constraint followed by the high demand for milk (61.36 per cent) were the most limiting attribute that influences the consumers in deciding to purchase and consume indigenous cow milk.

Long distance travel to purchase milk (49.94 percent), low quality milk (42.08 percent), soreness of milk (37.24 percent) and difficult to differentiate indigenous cow milk from cross breed cow milk (34.34 percent) were the other constraints in this order in purchase and consumption of indigenous cow milk. Consumers opined that there was a huge demand for indigenous cow milk but the production of it was low. Therefore, as the indigenous cow milk availability was less, it takes long distance to buy this milk.

CONCLUSION

The study revealed that most of the sample respondents consumed indigenous cow milk for the period of two years and above. With reference to source of awareness, majority of them were aware of indigenous cow milk by friends and family members followed by doctor's suggestion. Most of the respondents were buying 500 ml of indigenous cow milk as it was costlier than cross breed cow milk and majority of the respondents were buying daily through online app as indigenous cow milk was considered as premium product and these premium milk consumers expecting door delivery of milk. Family member's likeliness, quality, freshness, healthiness and door delivery were the highly influencing factors for the indigenous milk consumers. Most the sample respondents felt that high price of this milk was the first constraint in purchasing indigenous cow milk and as the demand for this milk was high, the availability and accessibility of indigenous cow milk was less and so considered as an important constraint.

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Comment [MF77]: Long distance travel to purchase milk (49.94 per cent), low-quality milk (42.08 per cent), soreness of milk (37.24 per cent) and difficulty to differentiate indigenous cow milk from cross-breed cow milk (34.34 per cent) were the other constraints in this order in purchase and consumption of indigenous cow milk. Consumers opined that there was a huge demand for indigenous cow milk but its production of it was low. Therefore, as the indigenous cow milk availability was less, it takes a long distance to buy this milk.

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