



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2019; SP4: 53-56

Jagruati Das
Ph.D. Scholar, DES&M, ICAR-
NDRI, Karnal, Haryana, India

Raju R
Scientist, ICAR-CSSRI, Karnal,
Haryana, India

Aniketa Horo
Ph.D. Scholar, Department of
Economics and Sociology,
Punjab Agricultural University,
Ludhiana, Punjab, India

Correspondence
Jagruati Das
Ph.D. Scholar, DES&M, ICAR-
NDRI, Karnal, Haryana, India

(Special Issue- 4)
National Seminar
“Role of Biological Sciences in Organic Farming”
(March 20, 2019)

Consumer preferences for fermented probiotic dairy products in metropolitan Delhi

Jagruati Das, Raju R and Aniketa Horo

Abstract

Increasing number of foreign and domestic companies in the market is escalating the demand for probiotic in India. The availability of probiotics is also increasing due to expansion of distribution channels across the nation, which in turn is steadily bridging the demand-supply gap. The Probiotic manufacturing companies are estimated to have a strong Compound Annual Growth Rate (CAGR), revenue wise, owing to their efficient distribution channels and focus on establishment of their exclusive outlets in various malls and supermarkets. Probiotic dairy foods and drinks are the largest segment in the probiotic market, in terms of revenue. This study is based on consumer preferences for fermented probiotic dairy products collected from 250 respondents based on the socio-demographic information of the households in Metropolitan Delhi. The following points were concluded from the study above:

1. Probiotic Drink is consumed the most amongst all the probiotic products so focus should be on advertising and other factors that would enhance the uses of other products.
2. Different assumptions are being made about various health benefits of the probiotics which are not in tune to the actual ones. So, the consumers should be made aware of the actual health claims.

Keywords: probiotic dairy products, Compound Annual Growth Rate

Introduction

The importance of fermented dairy probiotics has been known across civilizations and various strata of the societies over centuries in the form of the art of preserving the food products obtained by the process of fermentation. Since several ages, traditional fermentation processes were carried out using locally available ingredients, which were of plant or animal origin. These are converted into edible products by the physiological activities of the microorganisms. The traditional fermented foods are mainly obtained from dairy products like yoghurt, dahi, kefir, cheese (after long storage). Some others are also obtained from fermented vegetables or from vegetable juices and from non-fermented fruit and berry juices.

The fermented dairy probiotics are prepared by either using starters or by fermenting the product directly by using the probiotic organisms. The products which are prepared by using probiotic organisms along with the starter are yoghurt, dahi and cheese while in case of probiotic drinks; fermentation is directly done using the probiotic organisms. The Probiotic manufacturing companies are estimated to have a strong Compound Annual Growth Rate (CAGR), revenue wise, owing to their efficient distribution channels and focus on establishment of their exclusive outlets in various malls and supermarkets. Probiotic dairy foods and drinks are the largest segment in the probiotic market, in terms of revenue. The market for probiotic dairy foods and drinks is expected to witness giant growth due to their rising popularity amongst the youth.

Methodology

Selection of the Study Area

This study was conducted in the Metropolitan Delhi. For detailed investigation, five representative areas were selected namely; PreetVihar, Janakpuri, Connaught Place, Kamla Nagar and Saket which represents East, West, Central, North and South Delhi respectively. The sampling design adopted for the selection of market outlets and respondents from market outlets was purposive multistage random sampling. From each of these locations of the

Metropolitan Delhi, 50 respondents were selected. A total of 250 respondents were interviewed for this study.

Analytical Framework

This study analyses the consumer preferences for fermented probiotic dairy products. The analysis of consumer preferences was done by two methods:

- A. Descriptive analysis provided by the consumers for particular fermented probiotic dairy product or a specific attribute of it.
- B. Use of orthogonal technique for major products i.e. probiotic drink and probiotic dahi.

In both the techniques the respondents were asked to rate the particular product attributes with the lowest rating as 1 and the highest and most preferred rating as 5.

Descriptive analysis for analyzing the consumer preference

Descriptive analysis was used to determine the consumer preferences for a particular combination of different attributes of the product. For analysis of consumer preferences for probiotic drink and probiotic dahi, the preferences were studied for three brands of probiotic drink named Yakult, Amul Pro and Nutrifit and for dahi four brands were selected, viz. Amul Prolife, Nestle Acti plus, Mother Dairy Advanced and Mother Dairy B-active.

For analysis, the preferences were studied for some leading brands based on consumer responses for characteristics like: price, quantity, health claims, availability, shelf life, taste and packaging.

Orthogonal Designing Technique

For the major Probiotic products i.e. Probiotic Drink and Probiotic Dahi, the consumer preferences were studied using the Orthogonal Design technique, wherein for each product type, the different levels of attributes were selected.

Results and Discussion

Consumer preferences about price of probiotic drink and probiotic dahi

In case of probiotic drinks, 68.38 per cent respondents opined that they were extremely satisfied with the prices of Yakult which was followed by 42.74 per cent of respondents having an opinion of being extremely satisfied by Amul Pro. The least proportion of consumers who were extremely satisfied with probiotic drink was users of Nutrifit (30.17 per cent). Similarly, in case of probiotic dahi, about 44.30 per cent of the respondents were of the opinion that they were extremely satisfied with the prices of Mother dairy Advanced followed by 30.38 per cent of consumers opining for Amul Prolife while on the lower side Nestle Actiplus was found with 8.82 per cent of people reporting to be extremely satisfied with its price. About 12.86 per cent of respondents said that they were extremely satisfied with the prices of Mother Dairy B-active.

Ares (2010) ^[1] examined the effect of price, brand and health claims on consumer choices for 103 consumers in Uruguay and concluded that by addition of a functional ingredient the probability of consumers going for functional yoghurt increased over regular yoghurt.

Consumer preferences about quantity of probiotic drink and probiotic dahi

For Yakult, 49.57 per cent of the people opined that they were extremely satisfied with its quantity while the highest number

of respondents (51.28 per cent) who opined for extreme satisfaction in terms of quantity of probiotic drink was the users of Amul Pro. About 34.48 per cent users were extremely satisfied with Nutrifit. In case of probiotic dahi, 59.49 per cent of the user respondents were extremely satisfied with the quantities of Mother Dairy Advanced which is the highest followed by 34.48 per cent of user respondents opining that they were extremely satisfied with quantities of Amul Prolife. The least preferred product by the respondents (14.29 per cent) in this aspect was Mother Dairy B-active.

Consumer preferences about health claims of probiotic drink and probiotic dahi

In case of the health claims, it was seen that for probiotic drink maximum respondents (20.51 per cent) were extremely satisfied with Yakult and least number of respondents (3.45 per cent) went with Nutrifit for this attribute. For probiotic dahi, highest proportion of respondents (12.66 per cent) opined that they preferred Mother Dairy Advanced and the least proportion of respondents (3.80 per cent) were extremely satisfied with health claims of Amul Prolife and none of the respondents opined extremely satisfied for Mother Dairy B-active.

Hailu (2009) ^[2] surveyed 200 Canadian consumers and examined their preferences for probiotics and found that health claim sources were strongest for 'pill lovers' than that of 'pill loathers'.

Consumer preferences about availability of probiotic drink and probiotic dahi

This analysis showed that amongst probiotic drink, more number of the users of Yakult was extremely satisfied with its availability followed by Amul Pro and the least number of users of Nutrifit were extremely satisfied with its availability. Similarly in case of probiotic dahi it is seen that 54.43 per cent of users were extremely satisfied with the availability of Mother Dairy Advanced which is the highest and towards the lower side of this attribute is Mother Dairy B-active with 8.57 per cent of users opining for extremely satisfied with its availability.

Consumer preferences about shelf life of probiotic drink and probiotic dahi

The examination of consumer preferences for this attribute has revealed that among probiotic drinks, Yakult was the least perishable followed by Amul Pro and Nutrifit. Majority (48.10 per cent) of the user respondents were of the opinion that they were extremely satisfied with the shelf life of Mother Dairy Advanced followed by Amul Prolife and least number of people (12.86 per cent) were extremely satisfied with Mother Dairy B-active.

Consumer preferences about packaging of probiotic drink and probiotic dahi

This attribute was examined and it was found that in case of probiotic drinks the respondents (53.45 per cent) were extremely satisfied with the packaging of Nutrifit followed by Amul Pro (49.57 per cent) and to the lower side was Yakult (37.61 per cent). Among probiotic dahi the respondents were extremely satisfied with packaging of Mother dairy Advanced (46.84 per cent) followed by Amul Prolife (45.57 per cent) while the least (28.57 per cent) was found to be Mother dairy B-active.

Consumer preferences about tastes of probiotic drink and probiotic dahi

The analysis of consumer preferences for tastes of probiotic dahi and probiotic drink reveal that in case of probiotic drink majority (58.97 per cent) of the respondent users were extremely satisfied with taste of Yakult followed by Nutrifit (45.69 per cent) and the least was found to be with that of Amul Pro (40.17 per cent). In case of probiotic dahi it was revealed that majority (72.15 per cent) were extremely satisfied with the tastes of Mother Dairy Advanced while least number of respondents (27.14 per cent) were extremely satisfied with Mother Dairy B-active.

Analysis of the consumer preferences about the brands of probiotic drinks purchased by the user respondents revealed that majority (57 per cent) of the respondents preferred Yakult followed by Amul Pro (27 per cent) and the least preferred amongst the three brands was Nutrifit (16 per cent).

While analysing the most preferred brands by the respondents for probiotic dahi, it was revealed that the most preferred brand among the user respondents (36 per cent) was Mother Dairy Advanced followed by Amul Prolife (30 per cent) while the least preferred brand (13 per cent) was Mother Dairy B-active.

Consumer preferences about various attributes of probiotic lassi

While analysing the consumer preference for different attributes of Amul Prolife lassi, it was found that the majority (83.75 per cent) of the user respondents were extremely satisfied with the product for its taste followed by its price (75 per cent). The attribute with which least number of people (15 per cent) was extremely satisfied was health claims.

Consumer preferences about various attributes of probiotic yoghurt

The analysis of consumer preferences for Amul Flaaavyo probiotic yoghurt revealed that the extremely preferred

attribute by majority (90.57 per cent) of the user respondents was taste followed by the quantity of the product available (79.24 per cent). The lowest proportion (33.96 per cent) of user respondents were extremely satisfied about the pricing of the product while none of the user respondents interviewed were extremely satisfied with the health claims of the product.

Consumer preferences about various attributes of probiotic buttermilk

It was observed that majority (86.05 per cent) of the user respondents were extremely satisfied with the taste of Amul Prolife buttermilk while least proportion (4.65 per cent) of the user respondents were extremely satisfied with the health claims of the product. None of the respondents interviewed was extremely satisfied with the price of the product.

Analysis of the consumer preferences for different product attributes combinations of major fermented probiotic dairy products i.e. Probiotic drink and Probiotic dahi

The product profile was prepared for probiotic drink and probiotic dahi based on the selected attribute levels discussed earlier in the methodology section. The combinations of the product profile were prepared by using orthogonal design in SPSS software. Various combinations were obtained for probiotic drink and probiotic dahi out of which appropriate combinations were selected. Among all the obtained combinations, 9 combinations were selected for probiotic drink while 10 combinations were selected for probiotic dahi.

The above analysis revealed that the most preferred attribute combinations for probiotic drink of the brands amongst the income groups, it has been found that the respondents across all the income groups preferred a probiotic drink having a price of Rs.22 in container size of 200 ml each available in pack of five at local stores with a health claim of daily immune booster (Table 1).

Table 1: Consumer preferences for combination of probiotic drink attributes for different income groups

S.No.	Probiotic Drink Attributes	Income group I	Income group II	Income group III	Overall
1	Rs.22 for 200 ml package in single plastic bottle available at milk parlours improves digestion	3.94	3.87	3.73	33.86
2	Rs.10 for 80 ml package in single plastic bottle available at milk parlours, daily immune booster	3.69	3.95	3.54	3.84
3	Rs.10 for 65 ml package in a pack of five plastic bottles available at supermarkets, daily immune booster	3.16	3.21	3.19	3.20
4	Rs.10 for 80 ml package in a pack of five plastic bottles available at milk parlours, daily immune booster	3.72	3.83	3.46	3.76
5	Rs.22 for 200 ml package in pack of five plastic bottles available at local shops, daily immune booster	3.63	3.72	3.69	3.70
6	Rs.22 for 80 ml package in a pack of five plastic bottles available at other retail shops, daily immune booster	4.03	4.08	3.88	4.04
7	Rs.10 for 80 ml package in a pack of plastic bottles available at local shops improves digestion	3.97	3.86	3.92	3.89
8	Rs.10 for 65 ml package in single plastic bottle available at other retail shops improves digestion	3.63	3.88	3.85	3.83
9	Rs.10 for 80 ml package in single plastic bottle available at local shops improves digestion	3.84	3.91	4.08	3.92

In case of probiotic dahi, the most preferred attribute combination across all income groups was a product priced at Rs.32 available in container size of 400 g at milk parlours with a health claim of enhanced digestion whereas the

respondents in income group III preferred a product priced at Rs.15 weighing 90g available at local stores with a health claim of enhanced digestion equally (Table 2).

Table 2: Consumer preferences for combination of probiotic dahi attributes for different income groups

S.No	Probiotic Dahi Attributes	Income group I	Income group II	Income group III	Overall
1	Rs.40 for 400 g package available at milk parlours, improves digestion	3.94	4.08	4.08	4.05
2	Rs.26 for 200 g package available at other retail shops, improves digestion	3.84	4.01	3.50	3.90
3	Rs.26 for 200 g at supermarkets, daily immune booster	3.84	3.78	3.77	3.79
4	Rs.25 for 200 g package available at supermarkets, daily immune booster	4.03	4.03	3.92	4.02
5	Rs.32 for 400 g available at other retail shops, improves digestion	3.84	4.07	4.04	4.02
6	Rs.15 for 90 g package available at local shops, improves digestion	3.81	3.94	4.12	3.94
7	Rs.32 for 400 g package available at milk parlour, daily immune booster	4.22	4.10	4.12	4.12
8	Rs.50 for 400 g available at local shops, improves digestion	4.13	4.02	3.96	4.03
9	Rs.26 for 200 g package available at milk parlours, daily immune booster	4.13	4.08	3.73	4.04
10	Rs.26 for 200 g package available at local shops, improves digestion	3.50	3.43	3.23	3.41

Conclusions

The following points can be concluded from the study above:

1. Probiotic Drink is consumed the most amongst all the probiotic products so focus should be on advertising and other factors that would enhance the uses of other products.
2. Different assumptions are being made about various health benefits of the probiotics which are not in tune to the actual ones. So, the consumers should be made aware of the actual health claims.

References

1. Ares Influence of three non-sensory factors on consumer choice of functional yoghurt over regular ones. *Food and Quality Preference*. 2010; 21(4):361-367.
2. Hailu G, Boecker A, Henson S, Cranfield J. Consumer valuation of functional foods and nutraceuticals in Canada: A conjoint study using probiotics. *Appetite* 2009; 52:257-265.