

Consumers' preference for value-added products of finger millet (*Eleusine coracana*)

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Abstract

Objectives: To assess the consumers' preference for value-added products of finger millet.

Methodology: 80 consumers of Finger Millet were randomly selected from Bangalore Metropolitan and Doddaballapura taluk, Karnataka, India. The primary data was collected using a pre-tested, structured schedule prepared for the purpose.

Findings: While preferring the value added products of finger millet highest ranking was assigned to nutritional aspects followed by health value in Doddaballapura town and Bengaluru Metropolitan as there is an increasing awareness about nutritional and health value of the food among the consumers in the society today. Consumers preferred different value added products of finger millet among those products, flour and malt consumption per month was higher in both the study areas. The source of information to purchase value added products in both the study areas was melas / food festivals and newspapers/ magazines. Majority of the consumers took impulsive decisions to purchase value added products.

Policy suggestions: As finger millet and its value added products are healthy, nutritious, good for immunity, tasty and convenient for storage and consumption, the product promotional activities are to be under taken by the department of marketing, department of publicity and information, GOK, and through print and electronic media to further educate the consumers and to enhance the marketability and consumption of the products.

Keywords: Consumer's preference, value addition, awareness, source of information.

1. Introduction

Millets are a group of annual grasses and play a significant role in the food and nutrition security of developing countries mainly in arid and semiarid regions. Millets belong to five genera: *Pennisetum*, *Eleusine*, *Setaria*, *Panicum*, and *Paspalum*. Millets are highly nutritious and are even superior to other cereals and pulses in certain constituents. They are an important source of nutrients like magnesium, phosphorus, manganese, iron, and potassium. They contain high amounts of protein, fiber, vitamin E, lecithin, essential amino acid, and methionine. The fiber in millets prevents gallstones formation. Nutritional value of millet per 100g is as follows; protein content in millets like jowar (10.4 g), bajra (11.6 g), proso millet (12.5 g), foxtail millet (12.3 g), finger millet (7.3 g) and barnyard millet (11.6 g) are incomparable with wheat (11.8 g) and rice (6.8 g). Finger millet contains lesser protein, but rich in mineral matter and calcium than in rice and wheat. All the millets contain higher levels of fiber than fine cereals; hence millets are also named as store-houses of nutrients [1]. Processing of finger millet using traditional as well as contemporary methods for preparation of value-added and convenience products would certainly diversify their food uses. Their exploitation for preparation of ready-to-use or ready-to-cook products would help in increasing the consumption of millets among non-millet consumers and thereby nutritional security.

2. Materials and Methods

The study was conducted in Bangalore Metropolitan of Bengaluru Urban district and Doddaballapura taluk of Bengaluru rural district of Karnataka state in the starting year of 2018.

80 consumers of Finger Millet were randomly selected from Bangalore Metropolitan and Doddaballapura taluk. The primary data was collected using a pre-tested, structured schedule prepared for the purpose. Collected data from consumers on factors influencing the consumer preference on buying value-added products of finger millet, monthly consumption pattern of ragi and its value-added products and different source of information to know about value-added products of finger millet.

The analytical tools used for evaluating specific objective of the study, based on the nature and extent of data are given below.

1. Descriptive analysis
2. Garrett's Ranking Technique

1. Descriptive analysis

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Descriptive statistics such as mean and percentages were used for analyzing socio-economic characteristics, and marketing channels. To study the economics of finger millet cultivation, budgeting technique was used. Different concepts of costs and returns were used in the study are presented in this section.

2. Garrett's ranking technique

Garrett's ranking technique was used to rank the preference indicated by the respondents on different factors. As per this method, respondents have been asked to assign the rank for all factors and the outcomes of such ranking have been converted into score value. This technique was used for analyzing constraints in production and marketing of finger millet, factors influencing the consumer preference on buying a product and to know the source of information on value-added finger millet products and these ranks were converted to scores by referring to Garrett's table.

$$\text{Per cent position} = \frac{100 * (R_{ij} - 0.50)}{N}$$

Where,

R_{ij} = Rank given for i^{th} item by a j^{th} individual

N_j = Number of items ranked by j^{th} individual

The per cent position of each rank was converted to scores by referring to tables given by Henry Garrett.

Then for each factor, the scores of individual respondents were added together and divided by the total number of respondents for whom the scores were added. These mean scores for all the factors were arranged in the order of their ranks and inferences were drawn.

3. Results and Discussion

1. Factors influencing the consumer preference of value added products of finger millet

The details of factors which have influenced the consumers in buying value added products of finger millet are presented in Table 1. There were six factors which were assigned by using Garrett's ranking test. The consumers in Doddaballapura town had given highest ranking for nutritional value (66.25) followed by health value (65.65), traditional consumption (50.85), lower price (49.90), the brand was given fifth rank (36.43) and other factors for (31.93) are presented in Table 1 (a). And in Bengaluru metropolitan consumers had given the first rank for health value (70.10), followed by nutritional value (64.80), brand (52.65), lower price (46.50), and traditional consumption (36.03) and (29.93) for other factors are presented in Table 1 (b). The highest ranking was assigned to nutrition followed by health value in Doddaballapura town and Bengaluru Metropolitan due to increasing awareness about nutritional and health value of the food among the consumers.

The belief among the consumers is that finger millet is poor man's food. The price of finger millet is relatively lower than other cereal food products. This may be the reason for assigning the fourth rank with Garrett score of 49.90 and 46.50 in Doddaballapura town and Bengaluru Metropolitan respectively [2-3]. Consumer prefers a particular brand compared to other brands in the market, because of reasons like quality, competitive price etc. The Government of India enacted legislation on food safety and standards Act 2005 in order to regulate the food processing industry and to provide safe food to the consumers.

This aspect has influenced the respondents in Bengaluru metropolitan and has given the third rank for the brand. The research findings of [2] on consumer's behaviour of purchase of processed cereal food products in Punjab have the similar findings related to the present study.

Table 1. Factors influencing the consumer preference for value added products of finger millet

a) Doddaballapura town (n ₁ =40)			
Sl. No.	Source of purchase	Average Garrett's score	Garrett's Rank
1.	Nutritional value	66.25	I
2.	Health value	65.65	II
3.	Traditional consumption	50.85	III
4.	Lower price	49.90	IV
5.	Brand	36.43	V
6.	Others	31.93	VI
b) Bengaluru Metropolitan (n ₂ =40)			
Sl. No.	Source of purchase	Average Garrett's score	Garrett's Rank
1.	Health value	70.10	I
2.	Nutritional value	64.80	II
3.	Brand	52.65	III
4.	Lower price	46.50	IV
5.	Traditional consumption	36.03	V
6.	Others	29.93	VI

2. Consumption pattern of value added products of finger millet for one month

An attempt was made to elicit per month consumption pattern of value added products of finger millet like flour, hurrihittu, malt, idli/dosa mix, biscuits and other products in Doddaballapura town and in Bengaluru Metropolitan. The results are presented in Table 2. Majority (85 and 70 %) of the respondents in the Doddaballapura and Bengaluru Metropolitan were preferred finger millet flour with an average quantity of 13.06 and 11.87 kgs per month and for each family, followed by hurrihittu (37.50 and 57.50 %) with an average quantity of 0.78 and 0.83 kgs per family per month respectively.

Table 2. Average consumption pattern of value added products of finger millet for one month

Sl. No.	Value added products of finger millets	Doddaballapura (n ₁ =40)			Bengaluru Metropolitan (n ₂ =40)		
		Number of consumers	% to total	Avgqty consumed (kg/family)	Number of consumers	% to total	Avgqty consumed (kg/family)
1.	Flour	34	85	13.06	28	70	11.87
2.	Hurrihittu	15	37.50	0.78	23	57.50	0.83
3.	Malt	6	15	1.05	19	47.50	1.50
4.	Idli/dosa mix	8	20	0.53	29	22.50	0.75
5.	Biscuits	15	37.50	0.75	15	37.50	1.35
6.	Others	5	12.50	0.42	11	27.50	0.53

Malt consumption was little higher in Bengaluru Metropolitan compared to Doddaballapura town i.e. 1.5 and 1.05 kg respectively. 0.53 and 0.75 kg of idli/dosa mix were consumed per month in Doddaballapura town and Bengaluru metropolitan and biscuits consumption was also more in Bengaluru city i.e. 0.75 and 1.35 kg per month in Doddaballapura town. Finger millet has gained lot of importance in recent years because of its higher contents of calcium, iron and dietary fiber. Thus, it is a good dietary source of nutrients for growing children, elderly people, and patients. Due to the nutritional and health value of the finger millet majority of the consumers prefer finger millet and its value added products like flour, hurrihittu, malt etc.

3. Source of information on value added products of finger millet

There were five different sources pertaining to value added finger millet products in the study area and they are analyzed by using Garrett's ranking test. The results have shown that newspaper / magazine (62.52) was the major source of information for value added finger millet products in Doddaballapura town followed by melas / food festivals (57.97), friends/relatives (48.27), tv / radio advertisements (43.57) and retail shop display (37.92) are presented in Table 3 (a).

In Bengaluru Metropolitan melas / food festivals (65.47) the major source of information for value added finger millet products followed by newspaper/ magazine (56.55), retail shop display (43.22), friends/relatives (41.85) and tv / radio advertisements (41.37) are presented in Table 3 (b).

The major source of information regarding value added products for consumers is from publicity materials like newspaper / magazine, melas / food festivals, friends / relatives, tv / radio advertisements and retail shop display. In towns and city areas, majority of respondents got the information from melas / food festivals. This shows that consumers try out new products upon participating in exhibitions, food festivals.

Table 3. Source of information on value added products of finger millet

a) Doddaballpaura town (n₁=40)			
Sl. No.	Source of information	Average Garrett's score	Garrett's Rank
1.	Newspaper / magazine	62.52	I
2.	Melas / food festivals	57.97	II
3.	Friends / relatives	48.27	III
4.	TV / Radio advertisements	43.57	IV
5.	Retail shop display	37.92	V
b) Bengaluru Metropolitan (n₂=40)			
Sl. No.	Source of information	Average Garrett's score	Garrett's Rank
1.	Melas / food festivals	65.47	I
2.	Newspaper / magazine	56.55	II
3.	Retail shop display	43.22	III
4.	Friends / relatives	41.85	IV
5.	TV / Radio advertisements	41.37	V

4. Conclusion

The finger millet is usually used for preparation of flour, pudding, porridge and roti. With the changes in the scenario of utilization pattern of processed products and awareness of the consumers about the health benefits, finger millet has gained importance because of its functional components, such as slowly digestible starch and resistant starch.

5. References

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