International Journal of Humanities
and Social Sciences (IJHSS)
ISSN(P): 2319-393X; ISSN(E): 2319-3948
Vol. 5, Issue 6, Oct - Nov 2016; 133-144
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International Academy of Science,
Engineering and Technology
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CONSUMER PREFERENCE TOWARDS FUNCTIONAL FOODS IN DELHI, INDIA- A CASE STUDY

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ABSTRACT

Due to Globalisation and urbanization there is lot of impact on lifestyle this augmented diseases like cardiovascular disease, type -2 diabetes, obesity and contain type of cancer as never before in developing countries like India. The current study, performed on a sample of 180 respondents responsible of urban household food shopping explored in Delhi consumer evaluation concerning socio-demographic information, consumer awareness and acceptance, and factors affecting willingness to pay for FFs. The 96.67% of consumers show a positive approach towards the functional food where it helps to manage the appetite and body weight and 81.67% of consumers know and said that functional food helps in reducing the cholesterol and other related diseases. The Chi-square test was employed to analyse the consumers' willingness-to-pay for premium products and the results revealed that Among all the consumers most of them were willing to pay 5 per cent extra premium on the purchase of various kind of products like milk/dairy products, fruits and vegetables, meat, packed fruit juices, conventional food/traditional food.

KEYWORDS: Functional Foods, Cardiovascular Diseases, Consumer Preference

INTRODUCTION

India is the second biggest food producer in the world which includes milk and milk products, plantation, alcoholic beverages, vegetables and fruits, fisheries, poultry and meat, grain processing, chocolates, and confectioner. Alike western countries, India is also in great need of healthy food Increase in awareness in health concern, changing in socio-economic factors and lifestyle are some of the factors which are influencing the consumers to look for novel product which can meet up their extra nutritional requirements. Undoubtedly, all foods are functional, as they provide taste, aroma, or nutritive value. Within the last decade, however, the term functional as it applies to food has adopted a different undertone that of providing an additional physiological benefit beyond that of meeting basic nutritional needs. There is no proper definition for functional foods. In this study, the term "Functional Food (FF)" is defined as food that by virtue of the presence of physiological-active components, provides a health benefit beyond basic nutrition. Functional foods include whole, fortified, enriched or enhanced foods which have a potentially beneficial effect on health when consumed as part of a varied diet on a regular basis during the effective stage.

IFT (Institute of Food Technologists): Defines "Foods and food components that provide a health benefit beyond basic nutrition (for the intended population), including conventional foods, fortified, enriched or enhanced foods and dietary supplements. They provide essential nutrients often beyond quantities necessary for normal maintenance, growth,

and development, and/or other biologically active components that impart health benefits or desirable physiological effects. ADA (American Dietetic Association): Defines “Functional foods are foods that have health benefits beyond the nutrients they contain”. IFIC (International Food Information Council) defines “Any food or food component that may provide a health benefit beyond basic nutrition”.

One in every five people across the country has at least one chronic disease like cardiovascular, respiratory and metabolic disorders. The epidemic of chronic diseases, especially diabetes has already reached its peak as India is now seen as the diabetic capital of the world. Over weight, obesity, Coronary Heart disease, Hypertension, Metabolic syndrome, Hyper-cholesterol, Hyper-triglyceridaemia were seen in most of the people and this is mainly due to lack of physical activity, Smoking, to baccochewing.

FFs are not intended only to satisfy hunger and provide necessary nutrients, but also to prevent nutrition-related diseases and increase physical and mental well-being of consumers (Menrad, 2003). This study mainly focuses on the consumers’ preferences towards FFs in NCR in India. The study area Delhi is selected purposively by the following reasons. Delhi is the place where people from all over the India live which tends to influence the lifestyle and ideas. With the presence of multi-ethnic and multi-culture, Delhi has become a cosmopolitan city where people of this city formal caste and creed live together. Each Delhi citizen earns three times more than India average. According to estimated figures (Census of India) Delhi, the capital of India is presently home to over 18.6 million people. The city has been witnessing a huge growth in its population over the last 20 years. Currently, the capital of India is world's second most populous city after Tokyo, which holds the number one spot. Total population of Delhi in 2016 is 18,686,902. New Delhi's population is growing at a alarming rate, urban expansion has expanded beyond NCT. According to the survey conducted by Max Super Speciality Hospital in Saket, 80.7 per cent of people residing in Delhi-NCR region are suffering from obesity. Literacy rate in Delhi is 86 per cent. *(Source: The Economic Survey of Delhi 2014-15).*

From the diversity of the available studies, socio-demographic characteristics, cognitive and attitudinal factors emerged as potential determinants of consumer acceptance of functional foods. Based on a review of quantitative studies, Childs (1997) identified the US FF consumer as being female, well educated Higher income class, in a broad 35-55 age group. Another study conducted by IFIC (1999) reported that women, college graduates and consumers aged 45-74 are mostly likely to consume FFs. In the study conducted by Poulsen (1999) reported that preferred age group (aged 55+) and women as main FFs users, through pointed towards higher acceptance among the lower educated. Same was reported by Childs & Poryzees (1997) and Gilbert (1997) that FFs are dominated by female consumers. Wadolowska et al. (2008) observed that among the factors influencing the food choice, sensory and functional factors were significant and health and price were moderate. Advertising was generally denied as an important factor in food choice. The food choice motives were highly dependent on age and gender, and to a lower extent on region of residence, size of place of residence, economic condition and education level.

The multiple value perceptions of snack foods were significant in the formation of brand preference, whereas only functional price/value for the money and emotional value relate to purchase intention directly (Shih-Tse Wang, 2010). The higher-earning consumers were more likely to buy functional dairy products than those on lower incomes. Students and trainees were more likely to purchase functional milk beverages, whereas single females and pensioners preferred probiotics yoghurts. Single males, self-employed and agricultural workers were least likely to buy functional dairy products (Empen, 2011).

The current context of growing consumer demand for foodstuffs that was healthy and safe and that were obtained in a respectful manner. The analysis of consumer preferences towards attributes of this type takes on particular importance. These trends were especially clear in the case of the consumption of eggs because of their strong negative association with cholesterol levels and their extremely intensive systems of production. The introduction of variants that are more in harmony with current consumer demands represents an interesting market alternative (Mesias *et. al.*, 2011).

Functional foods can be considered part of or borderline to these products, and may be defined as foods or food ingredients that have additional health or physiological benefits over and above the normal nutritional value they provide. This trend is driven by several factors, mainly current consumer perceptions (Nicoletti, 2012).

Objective of the Study

Within in the food industry, the need for further research into consumer behaviour was identified as a top priority by Childs and Poryzees (1997). The prime aim of this paper is to identify and assess the socio-demographic, attitude, lifestyle determinants and factors influencing the consumers their purchasing decision of functional foods in Delhi.

Limitations of the Study

One of the main limitation of the study is the size of the sample is limited which may have an effect on the strength of conclusions that can be drawn. The findings can be taken only as indicative results that should be compared and confirmed with a study bigger sample size to get bigger accuracy.

The study is based on the primary data collected by personal interview method in respect for consumer perception for functional foods. In respect of sources, benefits and potential components of functional foods was gathered from secondary sources. The study is restricted to Delhi urban households.

Methodology

The study is based on both primary and secondary data. The primary data regarding the socio-economic characteristics of the consumers and the consumer's perception towards functional food was collected administrating pre-tested schedule which included questions regarding age, education, occupation, religion, income, type of family, food habit, awareness of the functional food, preference for the raw or processed functional food, motivation to consume, attitudes towards functional foods, willingness to pay for functional food and problems faced while marketing of functional food.

Secondary data regarding the food sources, components present in the food and potential benefits were collected from various published sources and journals.

Period of Study

The reference year of the study was 2016 and the collection of data was carried out during the period of June and July 2016.

Analysis of Data

The responses were scored, quantified, categorized and tabulated by using the following statistical tools.

Chi-Square

Chi-square test or χ^2 test, is any statistical hypothesis test which is being used for the sampling distribution of the test statistic is a chi-squared distribution when the null hypothesis is true, or any in which this is asymptotically true, for the different categories of group collected from the data which helps in analyzing the data wherever needed.

Descriptive statistics was used to make the simple comparisons of different kinds of questions that was being asked and collected from various consumers.

RESULTS AND DISCUSSIONS

Socio-Demographic Characteristics of the Consumers in Delhi City

The socio-demographic characteristics of the consumers are presented in the Table 1. which includes information about the gender, marital status, family type and earning members in the family. Among the 180 consumers considered during the study majority of the consumers 144 (80%) were females and only 36 (20%) were males. With respect to the age group, a majority 69 (38.33%) fall under the age group of 30-45 years, 60 (33.33%) fall under the age of 45 and above years, 45 (24%) consumers were in the age group of 15-30 and 6 (3.33%) consumers fall under the age of below 15 years. Among 180 consumers 42 (23.33%) were unmarried and 138 (76.66%) were married. With respect to the family type 156 (86.66%) of the family belonged to nuclear type and remaining 24 (13.33%) were joint type.

Table 1: Socio-Demographic Characteristics of the Consumers in Delhi N=180

Sl.No.	Characteristics	Category	Number of Consumers	Percentage to Total
1	Gender	Male	36	20
		Female	144	80
Total			**180**	**100.00**
2	Age group (years)	below15	6	3.33
		15 to 30	45	24
		30 to 45	69	38.33
		45 above	60	33.33
Total			**180**	**100.00**
3	Marital status	Unmarried	42	23.33
		Married	138	76.66
Total			**180**	**100.00**
4	Type of family	Nuclear Family	156	86.66
		Joint Family	24	13.33
Total			**180**	**100.00**
5	Education	Primary	12	6.66
		10^{th}std	21	11.66
		PUC	42	23.33
		Graduate	69	38.33
		Post- graduate	36	20
Total			**180**	**100.00**
6	Occupation	Housewife	51	28.33
		Service	42	23.34
		Software	87	48.33
Total			**180**	**100.00**
7	Earning Members in the family	One	60	33.34
		Two	108	60
		More than Two	12	6.66
Total			**180**	**100.00**
8	Family income (thousands/month)	< 25,000	15	8.33

		25,000 to 40,000	42	23.33
		40,000 to 60,000	48	26.66
		60,000 to 80,000	39	21.66
		>80,000	36	20
Total			**180**	**100.00**

A majority of the consumers were graduates 69 (38.33%), 36 (20%) were post graduates, 42 (23.33%) were PUC holders, 21 (11.6%) studied up to 10th standard, 12 (6.66%) studied up to primary. None of the consumers were illiterate. Consumer's proficiency in software were 87 (48.33%) followed by the Housewife 51 (29.33%). The remaining 42 (23.33%) were the consumers who were in service. The consumers having only one earning member were of 60 (33.33%), two earning members were of 108 (60%) and more than two earning members were with 12 (6.66%) families to support the family income. With respect to the family income, 48 (26.66%) of the families were found to earn income of Rs 40,000 to 60,000 per month, 42 (23.33%) earn Rs. 25,000 to 40,000 per month, 39 (21.66%) were found to earn Rs. 60,000 to 80,000 thousand per month, 15 (8.33%) earn Rs. less than 25000 per month, 36 (20%) earn more than Rs. 80,000 per month.

Consumers' Motivation and Attitude towards Consumption of Functional Foods

The details of motivation to consume functional food by consumers are presented in the Table 2 which shows all the details collected from the consumers during the time of survey. As listed in the table 174 (96.67%) consumers show a positive approach towards the functional food where it helps to manage the appetite and body weight, 6 (3.33%) had a negative approach. Following for the functional food which helps in reducing the common diseases caused in the family, there were 168 (93.33%) consumers who accepted this and the rest 12 (6.67%) did not accepted it. Similarly, when observed 165 (91.67%) of the consumers were having a good attitude about functional foods where it helps in improving the physical appearance, remaining 15 (8.33%) consumers did not accept the fact. 159 (88.33%) consumers accepted that the functional food helps to keep a healthy lifestyle and the rest 21 (11.67%) consumers did not any approach toward it.

Table 2: Consumers' Motivation and Attitude towards Consumption of Functional Foods N=180

Sl. No.	Particulars	Opinion	Number of Consumers	Percentage to Total
1	Helps in the maintenance of a healthy gut function	Yes	81	45
		No	99	55
2	Keep a healthy life style	Yes	159	88.33
		No	21	11.67
3	Enhances the wellness	Yes	141	78.33
		No	39	21.67
4	Enhances the physical and mental agility	Yes	33	18.33
		No	147	81.67
5	Helps to reduce cholesterol and other related diseases	Yes	147	81.67
		No	33	18.33
6	Helps to reduce the common diseases in the family	Yes	168	93.33
		No	12	6.67
7	Habit or tradition	Yes	111	61.67
		No	69	38.33
8	Helps to improve physical appearance	Yes	165	91.67
		No	15	8.33
9	Helps to manage the appetite and body weight	Yes	174	96.67
		No	6	3.33
10	Helps to keep body in good shape	Yes	138	76.67
		No	42	23.33

Following to those 147 (81.67%) consumers know and said that functional food helps in reducing the cholesterol and other related diseases, the other 33 (18.33%) consumers did not agree to this statement. About 141 (78.33%) consumers said that functional food enhances the wellness which motivates to consume it, but the remaining consumers 39 (21.67%) were not aware about this so the feedback was no from them. Around 138 (76.67%) consumers accepted that the functional food helps to keep body in good shape and the rest of the consumers 42 (23.33%) did not accept the fact.

For the past so many years' people are consuming functional food in a traditional way and it has become habit in their livelihood so about 111 (61.67%) consumers accepted this statement and the remaining 69 (38.33%) consumers did not agree. Most of the consumers accepted that the functional foods help in the maintenance of gut function about 81 (45%) of the consumers agreed to this and the rest of the consumers 99 (55%) did not agree to this. Lastly only 33 (18.33%) consumers accepted that functional food enhances the physical and mental agility and others 147 (81.67%) did not accepted.

The attitudes of consumers towards functional food are given in the Table 3. In this table, there are twenty statements which are assigned with three ratings as "probably", "definitely" and "not sure". Majority of the statements were rated under "probably" and "definitely" with different percentages which includes the benefits promoted by functional foods are rated probably 51 (28.33%), 39 (21.66%) definitely and 90 (50%) not sure given by the consumers, functional foods make it easier to follow a healthy life style probably 45 (25%), 90 (50%) definitely and 45 (25%) for not sure from the consumers, the growing number of functional foods in the market is a positive approach probably 138 (76.66%), definitely 30 (16.66%) and 12 (6.66%) said by the consumers, even for a healthy the consumption of functional food is advisable probably 54 (30%), 90 (50%) definitely, 36 (20%) were not sure about the given statement, the practice of consuming functional food gives pleasure 99 (55%) probably, 45 (25%) definitely and not sure were 36 (20%) as given by the consumers, functional food are absolutely necessary probably 30 (16.66%), definitely were 111 (61.66%) and 39 (21.66%) were not sure, the general health condition improves when we eat functional foods probably 126 (70%), definitely 24 (13.33%) and 30 (16.66%) were not sure, can reduce the possible occurrence of common diseases by consuming functional foods 159 (88.33%) were probably, 9 (5.00%) were definitely and 12 (6.66%) were not sure these statements were given by the consumers, functional foods promotes wellness for this statements the consumers were 30 (16.66%) for probably, 36 (20%) for definitely and 114 (63.33%) were for not sure, the health benefits for functional foods are well established probably 99 (55%), definitely 36 (20%) and for not sure 45 (25%) which was given by the consumers during the time of survey.

For the statement modern food technologists are engaged in innovation of new functional foods for this the consumers gave probably 69 (38.33%), definitely 54 (30%) and 57 (31.66%) were not sure, functional foods helps to repair the damage caused by an unhealthy diet probably 39 (21.66%), definitely 30 (16.66%) and 111 (61.66%) were not sure, the consumption of functional food is completely safe so for this statements the consumers rated as 24 (13.33%) for probably, 54 (30%) for definitely and for not sure 42 (56.66%), it is important to add benefits (vitamins, probiotics, omega-3 etc) to otherwise unhealthy food probably there were 108 (60%), definitely 30 (16.66%) and for not sure 42 (23.33%) given by the consumers, not enough information is being given about the benefits of the functional foods so there were about 45 (25.00%) probably, 111 (61.66%) for definitely and 24 (13.33%) for not sure, functional food are technology oriented 39 (21.66%) for probably 48 (26.66%) consumers for definitely and 93 (51.66%) consumers for not sure, functional foods helps to improve the consumers attitude and behavior the consumers answer for this statement was 33 (18.33%) for

probably, 42 (23.33%) for definitely and for not sure there were 35 (58.33%) from the consumers, consumers prefer functional food over the taste because of health reasons/utility they probably consumers were 78 (43.33), for definitely 30 (16.66%) and for not sure 72 (40%), functional food are consumed mostly by the people who are in need of them for this statement the consumers rated as 24 (13.33%) for probably, 54 (30%) for definitely and for not sure 42 (56.66%), it is important to add benefits (vitamins, probiotics, omega-3 etc.) to otherwise unhealthy food probably there were 108 (60%), definitely 30 (16.66%) and for not sure 42 (23.33%) given by the consumers, not enough information is being given about the benefits of the functional foods so there were about 45 (25.00%) probably, 111 (61.66%) for definitely and 24 (13.33%) for not sure, functional food are technology oriented 39 (21.66%) for probably 48 (26.66%) consumers for definitely and 93 (51.66%) consumers for not sure, functional foods helps to improve the consumers attitude and behavior the consumers answer for this statement was 33 (18.33%) for probably, 42 (23.33%) for definitely and for not sure there were 35 (58.33%) from the consumers, consumers prefer functional food over the taste because of health reasons/utility they probably consumers were 78 (43.33), for definitely 30 (16.66%) and for not sure 72 (40%), functional food are consumed mostly by the people who are in need of them for this statement the consumers feedback was 30 (16.66%) for probably, 45 (25%) for definitely and for not sure 105 (58.33%) was given by consumers, lastly for the statement in the table even if used in excess, functional foods cannot be harmful to health so the consumers feedback was 27 (15%) for probably, 39 (21.66%) for definitely and for not sure the consumers were more 114 (63.33%).

Table 3: Attitude towards Functional Foods by Consumers

Sl. No.	Particulars	Probably	Definitely	Not Sure
1	The benefits promoted by functional foods are real	51.00	39.00	90.00
		(28.33)	(21.67)	(50.00)
2	Functional foods make it easier to follow a healthy lifestyle	45.00	90.00	45.00
		(25.00)	(50.00)	(25.00)
3	The growing number of functional foods in the market is a positive trend	138.00	30.00	12.00
		(76.67)	(16.67)	(6.67)
4	Even for a healthy the consumption of functional food is advisable	54.00	90.00	36.00
		(30.00)	(50.00)	(20.00)
5	The practice of consuming functional food gives pleasure	99.00	45.00	36.00
		(55.00)	(25.00)	(20.00)
6	Functional foods are absolutely necessary	30.00	111.00	39.00
		(16.67)	(61.67)	(21.67)
7	The general health condition improves when we eat functional foods	126.00	24.00	30.00
		(70.00)	(13.33)	(16.67)
8	Can reduce the possible occurrence of common diseases by consuming functional foods	159.00	9.00	12.00
		(88.33)	(5.00)	(6.67)
9	Functional foods promote wellness	30.00	36.00	114.00
		(16.67)	(20.00)	(63.33)
10	The health benefits of functional foods are well established	99.00	36.00	45.00
		(55.00)	(20.00)	(25.00)
11	The modern food technologists are engaged in innovation of new functional foods	69.00	54.00	57.00
		(38.33)	(30.00)	(31.67)
12	Functional foods help to repair the damage caused by an unhealthy diet	39.00	30.00	111.00
		(21.67)	(16.67)	(61.67)
13	The consumption of functional foods is completely safe	24.00	54.00	102.00
		(13.33)	(30.00)	(56.67)
14	It is important to add benefits (vitamins, probiotics, omega-3) to otherwise unhealthy food	108.00	30.00	42.00
		(60.00)	(16.67)	(23.33)
15	Not enough information is being given about the benefits of the functional	45.00	111.00	24.00

	foods31	(25.00)	(61.67)	(13.33)
16	Functional foods are technology oriented	39.00	48.00	93.00
		(21.67)	(26.67)	(51.67)
17	Functional foods help to improve the consumers' attitude and behavior	33.00	42.00	105.00
		(18.33)	(23.33)	(58.33)
18	Consumer prefer functional food over the taste because of health reasons/utility	78.00	30.00	72.00
		(43.33)	(16.67)	(40.00)
19	Functional foods are consumed mostly by people who are in need of them	30.00	45.00	105.00
		(16.67)	(25.00)	(58.33)
20	Even if used in excess, functional foods cannot be harmful to health	27.00	39.00	114.00
		(15.00)	(21.67)	(63.33)

Brand Loyalty of Consumer's Preference in Purchase of Functional Food Product

The details of the consumer preference for the purchase of functional food product are given in Table 4. Three ratings were given for each statement they are "definitely", "probably" and "definitely not". So for the statement confined to use specific brand 108 (60%) of the consumers were definitely 30 (16.66%) were there for probably and for definitely not there were 42 (23.33%) consumers. Based on recommended brand to others the definitely consumers were 33 (18.33%), 42 (23.33%) were of probably and the rest 105 (58.33%) were for definitely not. Following to the statement loyal to the specific brand even at higher prices 69 (38.33%) consumers opted for definitely 54 (30%) agreed for probably and rest of the consumers 57 (31.66%) accepted definitely not. The last statement was of not interested to experimenting with the other brands so the consumers' feedback was for definitely 24 (13.33%), for probably 24 (13.33%) and for definitely not there were 132 (73.33%) consumers.

Table 4: Consumers' Brand Preference for the Purchase of Functional Food Products N=180

Sl. No.	Statements	Definitely	Probably	Definitely Not
1	Confined to use specific brand	108.00	30.00	42.00
		(60.00)	(16.67)	(23.33)
2	Based on recommended brand to others	33.00	42.00	105.00
		(18.33)	(23.33)	(58.33)
3	Loyal to the specific brand even at higher prices	69.00	54.00	57.00
		(38.33)	(30.00)	(31.67)
4	Not interested to experimenting with the other brands	24.00	24.00	132.00
		(13.33)	(13.33)	(73.33)

Factors Which Influences the Consumer in Buying Functional Food Products

The detail of factors which influences the consumers in buying functional food products is presented in Table 5. There were fifteen factors which were assigned with five ratings as "strongly agree", "agree", "strongly disagree", "disagree" and "undecided". For the price factor most of the consumers disagree 69 (38.33%), for appearance most of them strongly disagree 60 (33.33%), quality is one of the important factor so many of the consumers strongly agree 84 (46.66%), hygiene is also one of the important factor so the consumers agree to this 84 (46.66%), followed by the health factor compared to the other ratings majority of the consumers agree to it 60 (33.33%), exposure factor the consumers strongly disagreed this there were about 96 (53.33%) consumers, for any purchase of a product consumers try to look for the brand of the product so the brand image is also considered as one of the important factor so among all the consumers 75 (41.66%) were strongly agreed to this, retailers influence most of them disagreed 84 (46.66%), for the factor reasonable price few of them strongly agreed i.e., about 51 (28.33%) and the few of the consumers 78 (43.33%) disagree, for ready availability 78 (43.33%) of the consumers strongly agree, for taste most of the consumers 84 (46.66%) strongly agree to

this, the consumers considered packaging also as one of the important factor there were 54 (30%) who strongly agree, 36 (20%) who were agree to this and 51 (28.33%) were undecided, similarly the advertisement factor there were only 45 (25%) consumers who strongly agree, packaging design is also a factor for which 54 consumers who strongly agree, packaging design is also a factor for which 18 (30%) of the consumers strongly agree to it, convenience is one among the important factor in which 26 (43.33%) of the consumers strongly agree to it.

Table 5: Factors Influencing the Consumer Preference on Buy FFS N=180

Sl. No.	Statements	Strongly Agree	Agree	Strongly Disagree	Disagree	Undecided
1.	Price	36 (20.00)	54 (30.00)	0 (0.00)	69 (38.33)	21 (11.66)
2.	Appearance	24 (13.33)	45 (25.00)	60 (33.33)	21 (11.66)	30 (16.66)
3.	Quality	84 (46.66)	30 (16.66)	0 (0.00)	0 (0.00)	66 (36.66)
4.	Hygiene	30 (16.66)	84 (46.66)	12 (6.66)	30 (16.66)	24 (13.33)
5.	Health	51 (28.33)	60 (33.33)	0 (0.00)	24 (13.33)	45 (25.00)
6.	Exposure	24 (13.33)	45 (25.00)	96 (53.33)	15 (8.33)	0 (0.00)
7.	Brand image	75 (41.66)	30 (16.66)	0 (0.00)	30 (16.66)	45 (25.00)
8.	Retailers influence	32 (20.00)	24 (13.33)	0 (0.00)	84 (46.66)	36 (20.00)
9.	Reasonable price	51 (28.33)	36 (20.00)	78 (43.33)	15 (8.33)	0 (0.00)
10.	Ready availability	78 (43.33)	51 (28.33)	15 (8.33)	36 (20.00)	0 (0.00)
11.	Taste	84 (46.66)	30 (16.66)	0 (0.00)	30 (16.66)	36 (20.00)
12.	Packaging	54 (30.00)	36 (20.00)	0 (0.00)	39 (21.66)	51 (28.33)
13.	Advertisements	45 (25.00)	30 (16.66)	24 (13.33)	48 (26.66)	33 (18.33)
14.	Packaging Design	54 (30.00)	36 (20.00)	36 (20.00)	27 (15.00)	27 (15.00)
15.	Convenience	78 (43.33)	39 (21.66)	30 (16.66)	15 (8.33)	18 (10.00)

Consumers' Willingness to Pay Extra for Health Enhancing Functional Food Products

The Consumers' Willingness to pay extra for health enhancing functional food products is depicted in Table 6 it clearly indicates the different categories of food and in each category how much the consumers are willing to pay extra premium for each kind of product. Chi-square test was employed to find out the results for the obtained data. Chi-distribution probability is 0.05 and the test is significant at 5 per cent as well as 1 per cent level of significance level because calculated value of chi-square is more than table value at degree of freedom 4 i.e., and also because the probability of chi-square under null hypothesis for calculated chi-square value is less than level of significance (both 5 % and 1 % level). For the milk and dairy products 66 consumers were willing to pay 5 per cent extra premium on purchase, 45 consumers for 10 per cent extra premium, 45 consumers for 15 per cent extra premium and finally 24 consumers were willing to pay 25 per cent extra premium to purchase a product. Coming to the fruits and vegetables as people have become more health conscious 102 of the consumers were willing to pay 5 per cent extra premium, 33 consumers were willing to pay 10 per cent, 15 consumers are ready to pay 15 per cent extra there were 30 consumers who were willing to pay 25 per cent extra premium on the purchase.

Similarly, for the packed and processed food 51 consumers were willing to pay 5 per cent extra premium on the purchase of the product, 45 consumers were ready to 10 per cent extra likewise 45 consumers were also ready to pay 15 per cent extra on the purchase and lastly there were 39 consumers who were ready to pay 25 per cent extra premium on the purchase of the products. For poultry, meat, fish and other products there were 90 consumers who were willing to pay 10 per cent extra premium on the purchase of the product, 33 consumers were ready to pay for 10 per cent extra, 30 consumers were willing to pay 15 per cent extra premium and finally there 27 consumers who were willing to pay 25 per cent extra for the purchase on the products. For packed fruit juices there were 78 consumers who were willing to pay 5 per

cent extra premium on purchase 51 were ready to pay 10 per cent extra, 27 consumers were ready to pay 15 per cent per cent extra premium and lastly there were 24 consumers who were ready to pay 25 per cent extra premium on this for purchase. For beverages and all there were 60 consumers who were ready to pay 5 per cent extra premium, 45 consumers were ready for 10 per cent extra premium, 39 were ready for 15 per cent extra and finally there were 36 consumers who were ready to pay 25 per cent extra premium on the purchase of the product. For Specialty foods there were 56 consumers who were willing to pay 5 per cent extra premium on purchase, 45 were ready to pay 10 per cent extra, 45 consumers were ready to pay 15 per cent extra premium and lastly there were 24 consumers who were ready to pay 25 per cent extra premium on this for purchase. For conventional foods/traditional foods 96 consumers are willing to pay 5 per cent extra premium on purchase, 36 consumers for 10 per cent extra premium, 24 consumers for 15 per cent extra premium and finally 24 consumers were willing to pay 25 per cent extra premium to purchase a product.

Table 6: Consumers' Willingness to Pay Premium Price for Functional Foods N=180

Sl. No.	Particulars	Premium Price (Per Cent)			
		5	**10**	**15**	**25**
1.	Milk/ Dairy products (raw and processed)	66	45	45	24
2.	Fruits and vegetables	102	33	15	30
3.	Packed and Processed food	51	45	45	39
4.	Poultry, meat, fish and other products	90	33	30	27
5.	Packed fruit juices	78	51	27	24
6.	Beverages	60	45	39	36
7.	Specialty foods	56	45	45	24
8.	Conventional foods/ traditional foods	96	36	24	24

SUMMARY AND CONCLUSIONS

Among the 180 consumers during the study a majority 80 per cent were female consumers and only 20 per cent were males. It clearly indicates that females are the major customer segment involved in buying and purchasing of functional food product as they play a very important role in the family. Majority 76.66 per cent of the consumers were married and only 23.33 per cent of the consumers were not married. With respect to the age group majority 38.33 per cent of the consumers fall under the age group of 30 to 45 years. This age group finds to be critical where most of the people get married and earn for the family. A majority 86.66 per cent of the consumers comes from nuclear family and 13.33 per cent of the consumers were from joint family which clearly shows that in cities like Bangalore most of the people stay as nuclear family.

A majority 38.33 per cent were graduates and 20 per cent were post graduates. It clearly shows that almost all the consumers were literate and educated. Among the respondents 48.33 per cent were software engineers, 29.33 per cent were housewives and 23.33 per cent consumers were in service sector which indicates that for buying and purchasing of functional food products in the market there are more female consumers who look after the family also earn for family. A majority 60 per cent of the families had two earning members and also 26.66 per cent of the family had income ranging from 40,000 to 60,000 rupees per month which shows that income level have influenced to purchase wide range of functional food products. Educational level is important and most of the consumers were female who were educated, working and earnings for the family have more knowledge of what needs to be purchased for the family. The age group 30 to 45 years is more exposed to the mass media communication and modern technology where the life style pattern is changing and people adopt for the recent innovations and modernizations.

Since, there were only 180 consumers the occupation was divided into three categories *viz.* housewife, service and software engineers. About 87 consumers were software engineers and many of them were females. The literacy level is high among the consumers more over all the consumers are educated so they have enough knowledge of health and nutrition which takes care of the family. Religion is not having any barrier for the consumption of functional food due to urbanization, globalization, and more exposure to the day today world and more mobilization. The life style behavior, consumption of fast food which has become trend in the youth generation and which leads to unwanted diseases at young age, consumers are more conscious about their health problems, exercise and also consumers consume the functional food which helps to improve their physical appearance. Majorities 60 per cent of the consumers are using the same brand products and about 58.33 per cent of the consumers did not recommend the other brands to other as the influence was less. Among all the consumers most of them were willing to pay 5 per cent extra premium on the purchase of various kind of products like milk/dairy products, fruits and vegetables, meat, packed fruit juices, conventional food/traditional food.

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