

## CONSUMERS' ATTITUDE AND PREFERENCES OF FUNCTIONAL FOOD: A QUALITATIVE CASE STUDY

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The present qualitative study is based on 50 participants responsible of household food shopping. Their in-depth interviews were conducted with the consumers from the four superstores located in Faisalabad to explore consumers' views, preferences, attitude, acceptance of functional food (FF) and evaluation of different attributes like organoleptic, label, functionality along with health claim, price and brand. The analysis of qualitative data demonstrates that consumers had the concept of FF along with information and knowledge about different attributes of FF. All the attributes are important but the most importantly health claim attribute was the most valuable. Desire for seeking more information by the participants about FF also emerged in the study. The customers also attached significance to price in relation to purchase of FF particularly branded. Participants criticism on different conventional foods like fruit juices, milk and biscuits and bread (Chapati) available in the market about the poor quality and their recommendations of FFs to the other people create more space of marketing for this food that can be exploited by the FF industry. It is recommended that peoples should be made aware about the perceived benefits and threats of FFs and these foods may carry seal approved by regulatory body for ensuring quality and safety.

**Keywords:** Functional food (FF), attributes, health claim, consumer attitude and preferences, qualitative analysis.

### INTRODUCTION

In 1980 the functional food (FF) term was first used in Japan in a study planned to explore the relationships between nutrition, fortification, sensory satisfaction and adulation of physiological system with an objective for defining food products fortified those have advantageous physiological effects (Hardy, 2000). It has been argued manifold beneficial effects of FFs particularly cholesterol lowering products in improving general health of human beings and minimizing the risk of cardiovascular diseases through lowering cholesterol (Menrad, 2003; Mark-Herbert, 2004). The non-digestible food ingredients beneficially affect the growth of one or a limited number of bacteria in the colon, which links with improving host health (Charalampopoulos *et al.*, 2003; Stanton *et al.*, 2005; Hassan *et al.*, 2017).

There are number of FF products categories, the non-alcoholic beverages are a category which is fortified with vitamins A, C and E or may be with other functional ingredients. The availability of this category of FF product is more than sufficient as compared to market demand because the market is still small and fragmented in the European world. Germany is only country in Europe having appreciable space for this category of FF non-alcoholic product. The volume of these beverages has been increasing in Germany. In 1999 its volume reached to 89 million US\$ while it was 15 million US\$ in 1996 (Hilliam, 2000). The popularity of vitaminized non-alcoholic beverages could be seen from its

consumption in Germany. In 2000 the sale of such beverages reached to 117 million US\$ in Germany (Menrad, 2003).

The FF is promising in addressing the human health care issues and there is growing recognition of potential role of FFs in improving human immunity and reducing health risks resulting in improved quality of life. The partnership of different stakeholders of FFs like FFs manufacturers, nutrition companies and food additives companies are required for healthy product development (Sutar and Mohapatra, 2010). They suggested that health professionals, nutritionists, and regulatory technologists should work together to frame suitable regulations to provide ultimate health and therapeutic benefits to mankind. Miano (2016) viewed the significance of FFs for the improvement of human health through minimizing the risk of many diseases. Miano (2016) stated the all food categories like vegetables, cereals, legumes, fish, meat, fresh and dried fruits all are FFs should be a part of normal diet because these foods are not drugs, medicines, or other dietary supplements. She was of the opinion that in Pakistan mostly people are unaware of the FFs and their benefits for human health.

Ali and Rahut (2019) using primary data collected from 400 respondents from all the provinces of Pakistan found that majority of the respondents do not have proper knowledge and information about the FFs. The knowledge and information were more among educated, urban, economically well-off and female respondents as compared to illiterate and low level of educational attainment, poor economic status,

male and rural respondents. Economically well off well educated and urban consumers were willing to pay more for FFs with an understanding of health benefits of these foods. Development of FFs is not limited to fewer food categories it is almost in all categories of food increasing the scope and consumption pattern of varying preferences and tastes of users. As the growth of market of FFs products are not evenly distributed (not the same), reflecting that different FFs products are available in different markets, so the consumers' preferences also vary according to availability of products in the markets. In non-alcoholic FFs category the products of dairy, bakery, confectionery, soft-drinks, launched in all markets of world along with baby-food products (Menrad, 2003; Kotilainen *et al.*, 2006). Keeping in view the FFs products in all category of food, different classifications are proposed. (Sloan, 2000; Kotilainen *et al.*, 2006; Spence, 2006) proposed food fortified with additional nutrients (labeled fortified products), like fruit juices fortified with vitamin E, vitamin C, Zinc, folic acid, and calcium that is with respect to product. In the process of food fortification, a deleterious component removed, reduced or replaced with additional nutrients having beneficial effects. The examples are fibers as fat releasers in meat or ice cream; food in which one of the components have been naturally enhanced; eggs with increased omega-3 content.

The alternative classification based on criteria of human health (Makinen-Aakula, 2006) like prebiotics and probiotics; FFs that link with reducing health risk problem through lowering high cholesterol or high blood pressure and adding to human life such as gluten-free or lactose-free products.

As the functional products have promising effect on physiological functions in human body (Diplock *et al.*, 1999) and making life easier that is why innovative researches enable the food industry to launch more and more FFs products. As the FFs have beneficial effects on human health so the future of FFs seems quite optimistic (Gray, Armstrong, and Farley, 2003). Keeping in view the growth of industry, expanding market and consumption pattern of FFs, these FFs products face more challenges as compared to conventional food which is generally have a high health image. That demands the empirical investigation of FF products in the context of the consumer's attitude, preferences and acceptance of FF products along with health benefits of these types of food. (Lähteenmäki, 2003). In Pakistan, limited work has been done on FFs there must be collaboration between the food industry and research institutions for research on the perceived benefits and perceived threats of the FFs (Dawn, 2019). The empirically based product development will help in winning trust and confidence of the consumers and growth of FF industry in Pakistan.

The awareness about FFs in developing countries is increasing. Several forces are propelling the demand for FF; increasing health conscious growing health cost and awareness about the value of FF are the primary drivers (Ali

and Rahut, 2019). In Pakistan the morbidity rates of different chorionic diseases are alarming. Non-communicable diseases are estimated to account for 58 percent of all deaths in Pakistan of which 29 percent are patients of cardio-vascular diseases (WHO, 2018). About 35.5 million people are suffering from diabetics making Pakistan the 7<sup>th</sup> highest country with diabetic patients and every one person in six persons is diabetic. Regarding cancer every year 0.3 million new cases are diagnosed (The Nation, 2018). Among male and female cancer patients the lung and breast cancer are common, respectively (GOP, 2018). Daily Times of Pakistan in 2018 reported that Pakistan's 50 percent population is obese reflecting an alarming situation of obesity basis for many communicable and non-communicable diseases. According to Securities and Exchange Commission of Pakistan (SECP), the total number of food and beverages companies registered with SECP as end – June 2015 stood around 2500 of which 145 had been registered in FY15 alone (Dawn, 2019). Dawn reporter reported that analysts say food sector in Pakistan has been showing a lot of progress and identified the growing demand processed/FFs as a result of rise in income level. In Pakistan negligible research has been conducted on consumers' knowledge, attitude and business opportunities along with health benefits of functional benefits reflecting a promising area for research.

## MATERIALS AND METHODS

Censuses, vital statistics, and sample surveys are based on quantitative approaches to provide socio-economic demographic information. As the demand for explaining and understanding FF phenomenon in terms of behavior, attitude and preferences was enhanced, the significance of qualitative studies was recognized. The qualitative approaches are based on unstructured questions (guide lines only). The non-directive and open ended questions allow individuals to respond without setting boundaries and also to explain and share experiences and attitudes as opposed to the structured and directive interview (Krueger, 1988).

In depth interviews are one of the qualitative approaches which were developed by the private sector and widely used for promotional activities (Stycos, 1981). In recent years, the qualitative techniques attracted the attention of a broad spectrum of social scientists working in academic fields in their research to evaluate socially oriented programs and program managers (Schearer, 1981). Social scientists working in the discipline of business management emphasized the significance of qualitative techniques for better understanding of people's views and preferences, about FF and also for evaluation and advancement of FF, consumer attitude, knowledge and acceptance which mainly relied on knowledge attitude and practice studies (Schearer 1981; Knodel *et al.*, 1984). No doubt quantitative methods give the answer to "how" individuals behave in certain circumstances,

especially in-depth interviews or focus group discussion intelligently respond to the diagnostic question of "why" (Folch-Lyon and Trost, 1981).

Carefully planned in depth interviews or focus group discussion enables researchers to obtain perceptions on particular issues of interest in a permissive, non-threatening environment. The session involves small numbers of people, usually in the range of 4 to 10 (Krueger, 1988). Present study was planned to explore consumers' views, preferences, attitude, acceptance of FF and evaluation of different attributes like organoleptic, label and functionality along with health claim, price and brand. For this purpose, in depth interviews are conducted with 50 participants/respondents 10 from each superstore situated in Faisalabad city namely Metro cash and carry, Al-Fatah shopping mall, Imtiaz super market, Bambino departmental store and SB departmental store during the months of March and April 2019. Faisalabad is an industrial city known as Manchester of Pakistan like Manchester of UK. Faisalabad is also the third biggest district of Pakistan (GOP, 2017).

After taking the consent of shopper who came in store for shopping the objectives of the study were explained, the in-depth interview was conducted with the participant at separate place in the store and it took 40 to 50 minutes for each interview. After conducting or completing the interview with the participant then consent was taken from the second one. The interviews were conducted from 3.00 pm to 7.00 pm. In the same way the in-depth interviews with the 50 participants were conducted. Conversation analysis (CA) was used to analyze the qualitative data of 50 participants. It seeks to pursue that aim through an extremely close scrutiny of the way we converse with one another; open coding is the part of analysis that pertains specially to the naming and categorizing of views of participants on FFs through close examination of qualitative data. During open coding the data were broken into discrete parts, carefully examined, compared for similarities and differences, summarized and then transcribed (Strauss and Corbin, 1990).

The socio-economic and demographic characteristics are presented in table 1. The education of participants varied from middle (8 years of schooling) to the highest degree that is Ph.D while income from PKR. 0.01 million to 0.2 million with mean income PKR. 0.049 million per month and standard deviation PKR. 0.035 million. The minimum and maximum age of participants were 20 years and 65 years with mean age 36.4 years and standard 11.9 years deviation while the household size was varied from three to 15 persons with mean household size 6.8 persons and standard deviation 2.74 persons.

**Table 1. Socioeconomic and demographic characteristics of the participants.**

Characteristics	Frequency	Percentage
<b>Gender</b>		
Male	26	52
Female	24	48
Total	50	100
<b>Family Structure</b>		
Nuclear	21	42
Joint	22	44
Extended	7	14
Total	50	100
<b>Marital Status</b>		
Married	35	70
Unmarried/separated/ divorced/widowed	15	30
Total	50	100
<b>Household Size</b>		
Upto 5	17	34
6-7	18	36
8+	15	30
Total	50	100
<b>Educational Level</b>		
Upto Matric	13	26
Intermediate/ Graduation	15	30
Postgraduate	22	44
Total	50	100
<b>Age (years)</b>		
Upto 35	26	52
36-50	15	30
51+	9	18
Total	50	100
<b>Income Monthly (PKR.)</b>		
Upto 40,000	25	50
40,001-60,000	15	30
60,000+	10	20
Total	50	100

**About the functional food (FF):** From the in-depth analysis, it is emerged that mostly participants of the study had the knowledge of FF, irrespective of their education having low educational or high educational attainment, gender whether male or female, economic conditions or status belonged to well off family or poor family and family arrangement whether nuclear, joint or extended. A number of the participants explained the correct concept of the FF. They viewed that FF containing health giving additives, more of the existing ingredients thought to be insufficient in certain ingredients. One of the participants of age 23, highly educated belonged to extended family with nine family members and unmarried explained the concept of FF in the following words: "FF are fortified with supplements, they are not having original taste. These foods are good for health".

Another participant of age 25, belonged to a family with eight family members, living in joint family arrangement and unmarried viewed FF as “Functional foods contain additional nutrients or modified nutrients”. Another married participant of family size six engaged in teaching profession explained the concept of FF as: “Functional food is food which fulfills all the required nutrients of the human body. This food is good for health”. One of the participants explained the concept in the following words: “Food which is rich in all needed nutrients required by human body and essential dietary components of natural food called as FF”. One of the participants viewed FF as: “FF is not natural food it has also different taste. Although we heard that it is good for people, seems unbelievable how unnatural can be healthy for human body”. Analyzing the concepts and views explained by the participants having different socio-economic and demographic and background characteristics can be said that the participants had the knowledge and information of FFs and its beneficial effects on human body. A number of studies have identified the importance of consumer awareness of FFs as basis for their acceptance of FFs (Bech-Larsen *et al*, 2001; Moskowitz *et al*, 2004; Niva and Makela, 2007).

**Sources for getting information about FF.:** As it is viewed that the concept of FF is new one in Pakistan. No doubt the concept of FF is growing, still the sources for getting information about FF has its importance. As the theory diffusion of innovation advocated (Rogers, 2003) the awareness about any new idea or innovation is very important for acceptance or rejection of an innovation. Sources of getting information are an important element of awareness. Keeping in view the information about sources for getting information about FF provided by the participants, it can be said that mostly participants had knowledge about information channels and sources from where they sought information. They viewed that doctors, social media -internet, educated peoples and interaction with friends in the supermarket are the main sources for attaining information about FF.

One of the participants explained about the sources for getting information that: “In this age of information technology, the social media is an important source that provides useful information about FF from the Facebook and YouTube, a person can attain very useful information about FF”.

One of the participants viewed an interesting way for getting information about the FF. He explained that in a supermarket one of the customers picked up many boxes of biscuits, on my asking why you are purchasing so many boxes of biscuits instead of fresh biscuits from bakery. He provided me very useful information about the FF. I was really impressed and convinced what the information he provided. From that day we purchased functional foods of many varieties like juices, biscuits, bread, yogurt”.

Another participant of the in-depth study explained the sources from where he attained information in the following

words: “social media, books, through observation in different supermarkets or stores are places for purchase of FF and other food and non-food items. Supermarkets are best places from where we can purchase grocery what is required which have quality guaranteed”.

Analysis of participants’ views and observation about the sources of attaining information about the FF demonstrates that they had the knowledge and authentic sources of information and there were participants who were using of FF items irrespective of their knowledge of FF. Upon our briefing about FF they had shown interest in getting more information about FF.

**Knowledge about the FFs items:** No doubt FF getting popularity among the peoples as they are more keen and interested to know about different items of FF and its attributes along with health benefits of FF. Undoubtedly there is long list of FFs items. The question is very pertinent to know about different items of FF because of close association between knowledge and acceptance of new idea and innovation like FF. It is hypothesized that if people have knowledge of FF items and their brands then they will more likely use these items. The participants identified milk, juices, bread, fish, yogurt, oats, nuts, soya, tomato as FF items. As the analysis of information provided by the participants about the FF items reflects that some identified two, some identified three some identified four even there were participants who had knowledge of more than four FF items. Some provided about the drinks, some about biscuits, and juices and others food items like oats, bread and fatty fish.

One of the participants viewed the FF items: “Oats, nuts, grapes juice, soya, fatty fish as the functional food items”. Another participant viewed the items like “blue band, butter, Shezan cold drink, juices and yogurts” One of the participants told that eggs enriched in omega 3, fortified margarine probiotics fatty fish. Such views of the participants can be supported with the research conducted by Guine *et. al*. (2009) and Sutar and Mohapatra (2010). If these findings are supported with some literature it would be more authentic. Sutar and Mohapatra further advocated that promotion and advertising play an important role to recognize the product types.

**Attributes of Functional Food:** Any new idea or innovation gains higher level of acceptance if that innovation has compatible attributes with people desires, liking, affordability otherwise innovation’s diffusion or acceptance become difficult even such innovations are discontinued by the adopters. As mentioned earlier, the concept of FF is novel in Pakistani society, if any FF item has good or acceptable attributes like purity, safety, quality, natural, having health benefits, economical, nutritional, and branded product then acceptance and adoption of that FF item will be diffused in the society. In this in-depth qualitative research, it had been explored from the study participants their knowledge about FF attributes. Mostly participants identified the number of FF

attributes. They viewed that if the FF is economically affordable then we think about other aspects like quality, safety and purity. They were asked what do you mean by quality? they expressed quality means food should be nutritious similar to natural food and links with improving human health. They viewed branded food items are good in their attributes but branded food products are expensive as compared to non-branded FF items. They further viewed that if a person affords expensive branded FF products then branded items can be trusted because these items are produced by the internationally reputed companies.

It can be said that mostly participants had good knowledge about the attributes of FF items. One of the participants explained the attributes in the words: functional foods are safe and have all the ingredients required for keeping human body healthy. Expensive food is acceptable if food has health benefits for human body. Now-a-days, life is very fast and complicated; people find little time for walk and exercise, so we take such food which nutritious, safe, having good taste and improve health.

Some participants viewed the FF is not pure, unnatural food because additional nutrients are mixed and added up that process of mixing other nutrients makes the food un-natural. Although from the friends, and social media what the information we have about FF products we are convinced with quality of FF items still it is un-natural. No comparison of natural food with un-natural food.

One of the study participants expressed about FF items that: "if someone mix up certain ingredients then who can say food is natural and pure as the international companies claims for food purity, safety and health benefits impacts".

The mostly participants expressed that the functional foods are much better in the quality, purity and safety as compared to conventional food products. The FFs prepared by the internationally reputed companies and organizations keeping in view international standards because they have to export their products, so cannot afford the sub-standard poor quality foods products. The conventional food products those are available in the market not of even good quality and purity, but safety of these products is entirely doubtful can be trusted upon. In the preparation of such food products the hygienic aspects are totally ignored such foods are dangerous for human health.

One of the participants expressed the poor quality and sub-standard and unhygienic of the conventional food in the words about biscuits available in bakeries. Biscuits prepared in bakery are totally unhygienic and of poor quality. Substandard material like floor, oil from animal fat known as churbi and rotten eggs are used for preparation of bakery products. Even such products cannot be used after two or three days. What she said in her own words "The rotten eggs and poor quality fat of live and dead animals and poultry used for the preparation of bakery products in conventional bakeries without caring hygiene. Such bakery products have

no taste, freshness, aroma and texture after two days of purchase while the FFs are good in quality, taste, texture and nutrition along with all information about nutrition, brand name and ingredients and when you use it is really good in taste, freshness, texture, aroma attributes along with dates of product preparation and its expiry.

The participants of research study have great concern and criticism on the conventional food especially with regard to hygienic and quality and also from nutritional aspect. They viewed that many conventional foods are extremely dangerous for human health. They have given examples of orange juice sell by the vendors and fresh juice sellers, bread(chapati) available at traditional oven (Tandoor), bakery products, milk products (yogurt, butter, milk) and shakes etc.

A number of participants pointed out poor quality of milk available in the market and provided by the traditional milk providers (Doji). They viewed that milk is artificially prepared consisting of ingredients like washing power known as surf, poor quality oil, hair removers, and some other chemicals. They also highlighted the dangerous and adverse effect of such milk on human health specially children health. One of the participants analyzed the quality of milk available in the market and provided by the milk sellers (Doji) given in the words.:

"It is established fact what the milk provided to us by the milkman is not pure he mixed up washing and hair remover powder, poor quality oil and other chemical to increase the quantity and thickness of milk. When children drink this milk, they suffered in lose motion". The anker person Iqar ul Hassan of ARY channel has casted number of documentary programs how the milk businessmen prepared artificially milk and sell as fresh milk in the program the SARAY AAM PROGRAM. These people have no morality, they do not bother about human health they have only mission of earning money (greed for money). May God bless them good thinking's.

Regarding the other attributes of FF they viewed that color, taste and texture of FF products like biscuits, juices, bread, milk and others are really remarkable. The sensory characteristics, have been revealed to be an extremely important factor in influencing acceptance of FFs (Urala and Lähteenmäki, 2007). Numerous studies have pointed out the role of taste as a factor influencing consumers choice to buy or willingness to buy. Studies also identified that consumers in general are hardly willing to compromise on the taste of FFs for possible health benefits (Verbeke, 2006). While other studies pointed out the consumers' compromise on taste for those products which may have such a strong and established health claim (Urala and Lähteenmäki, 2004). So the international companies ensure the transparency for the satisfaction of their customers. The participants attached the great significance and valued the health claims and health benefits of FFs. The different studies indicate the importance

of health benefits of FF that plays an outstanding role, as demonstrated by their increasing demand derived from the increasing cost of healthcare, the gradual increase in life expectancy, and the desire of older people for an improved quality of life in their later years (Kotilainen *et al.*, 2006; Robertfroid, 2000a, 2000b). A common result of these studies is that consumer acceptance is determined by a number of factors such as primary health concerns, consumers' familiarity with the FFs concepts and with the functional ingredients, the nature of the carrier product, the communication mode of health effect (Verbeke, 2005; Sirò *et al.*, 2008; Annunziata and Vecchio, 2011). In 2001, food neophobia slightly affects the willingness to use FFs (Urala and Lähteenmäki, 2004) but latter on food neo-phobia no longer affected their acceptance while FFs purchase and willingness were seen in disease prevention. Health claims emerged in this qualitative study played a central role in guiding purchasing decisions for FFs, helping consumers to make better-informed food choices (Leathwood *et al.*, 2007; Williams and Ghosh, 2008; Haider *et al.*, 2013, 2014). Even such products are available in small, medium and large packing to facilitate the consumers how much quantity they need they can purchase. Packed and Wrapped beautifully in good quality papers. Packaging might also play an important role in affecting consumer attitudes and behavior towards FFs acceptance or willingness to buy however only few studies have analyzed this particular attribute in the FFs market (Ares *et al.*, 2010; Stein and Rodriguez-Cerezo, 2008). Whenever the packet is opened for example biscuit packet you find the excellent taste, excellent aroma, good color and along with texture. The participants viewed that nutritional information and information about ingredients are clearly mentioned on the packet. International food manufacturing companies mention each and every information like date of packing and expiry date, health benefits and information about nutrients to meet the international standards like ISO/HACCD to address quality assurance.

Regarding brand of FFs, the participants viewed that there are many brands but some brands are trustable because of its quality products like NESTLE drinks and food, DAWN BREAD, WONDER BREAD, WHISTLEZ, COOKANIA, PEEK FREANS and many more. These are growing multinational companies and have a number of FF items and well reputed brand gained popularity in Pakistan with regard to FF items and is of quality.

They expressed that a FF given an additional function by adding new ingredient. They also identified that the FFs are bit expensive because of low income of people. They viewed that a large number of people of Pakistan (more one third of 70 million population) are living below poverty line. Such FF items are beyond the purchase of that huge segment of people. As far their views about other attributes of FF, there is no doubt we agree with all other aspects of FF.

**Recommendations/Approval of the Participants of FF products for others:** It was also asked from the participants of in depth or qualitative study "Whether you recommend the FF products to other peoples and you continue to use the FF items". Mostly participants without any doubt pointed out that they will use the FF items for their family. The food which is of good quality, prepared as per international standard, fulfill nutritional requirements and beyond all these good aspects of FF products, the health benefits of FF is unique and convincing aspect for continuation its use and we strongly recommend to others like relatives, and family friends. They are of view that everyone should have the benefits of development in food sector.

**Conclusion and Recommendations:** The analysis of qualitative data demonstrates that participants had the concept and understanding of FFs and their attributes. The safety, quality and nutritional aspects can be found with FFs not with conventional food available in the market as viewed by the participants. The analysis identified the importance of sensory characteristics like taste and texture for the acceptance FFs. With reference to non-sensory attributes the packing, brand and price have importance in influencing consumers' attitude, behavior and preferences about FFs. The health claim and benefit attribute emerged as the most important attribute in this qualitative study in shaping people attitude and preferences and willingness to buy the FFs. Participants evaluation and criticism on conventional foods and with respect to their quality, safety and hygiene and their recommendations are very valuable for food industry. It is essentially important to make people aware about the FFs and their perceived benefits and perceived threats along with the regulatory mechanism for the FFs development in the country and it will also be appropriate in relation to health safety that FFs carry seal of approval of the regulatory body. Finally, findings based on qualitative data about the different attributes of FFs gathered from a small group of participants and limited to just one city that is Faisalabad, it would be appropriate the food industry of Pakistan funded a large scale triangulation research study in the major cities of Pakistan for having findings on benefits, concerns and challenges of FFs.

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