

# **Functional Food Acceptance in India: Socio-Demographic and Lifestyle Determinants**

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## **Abstract**

Lifestyle changes and poor eating habit augmented the development of diseases like cardiovascular diseases, type 2 diabetes, obesity and certain type of cancer as never before in the developing countries particularly in India. The present paper aims to assess the socio-demographic and lifestyle factors on the functional food products acceptance in India. Foods developed to improve health or to reduce the risk of diseases are known as functional foods. This conceptual paper presents a comprehensive review of the previous research studies. Based on the extensive review of literature this research study has tried to identify and evaluate the consumer's views of functional foods in the light of their socio-demographic and lifestyle background. Applying the underlying tenets of the Theory of Planned Behavior and Health Belief Model, this research paper has developed a functional food acceptance model that incorporated functional food products acceptance at the individual or personal level. Understanding the consumer behavior and its various determinants is very important in marketing particularly in positioning a novel product in a highly competitive consumer market. The model developed in the present study will be useful for the marketing managers to make appropriate strategies to win the prospects and the study will also help the health policy makers to develop the necessary programs to improve the public health through promoting the functional food market in the country.

**Keywords:** Functional food, Perceived benefit, Perceived Risk, Purchase intention.

## **1. INTRODUCTION**

As a generation of 'technology' and 'convenience' people are eating more processed and fast foods than ever and this unhealthy eating habit resulted for the increase of the occurrence of noncommunicable diseases (NCDs) like chronic diseases, diabetes, obesity and some type of cancer. By making people aware about these serious issues, during the last few decades functional foods have become a relatively new component of the human diet and world population has shown a positive trend towards the healthy or functional foods. Moreover the demand for both functional foods and different healthy beverages has increased and it is expected to continue increasing in the future. The strong reason for the development of functional food market is the desire among more and more people to live healthy and long lives. Firstly understanding of the term functional food itself is important, as natural products and then after through scientific innovation and industrial processing, functionally enhanced foods promise healthfulness. Functional foods are not intended only to satisfy hunger and provide humans with necessary nutrients, but also to prevent nutrition-related diseases and increase physical and mental well-being of consumers (Menrad, 2003). The study focuses on the present scenario of Functional Food Products (FFPs) market in India and the various factors determining the consumer acceptance of FFPs. Subsequently, the paper aims to develop a functional food acceptance model for the Indian consumer market.

For the successful marketing of FFPs, the significance of understanding consumer behavior and consumer perceptions of functional foods has been recognized (Childs, 1997; Gilbert, 1997; Frewer, Scholderer and Lambert 2003; Verbeke, 2005; Niva, 2006) and substantial empirical research studies on consumer attitudes towards functional foods has been established (Henson, Cranfield and Herath, 2010). But it was found that all these studies has happened in the developed countries and only a little research has actually been conducted on functional foods marketing in developing countries, particularly in India. Moreover it is recognized that attitude towards FFPs tend to be cultural specific (Bech-Larsen, Grunert, & Poulsen, 2001) and better understanding of consumers' cultural background is also important because perception of food and diet varies according to the cultural differences (Sigma & Beckmann, 1998). Since India is a culturally diversified country, the present study has importance in India. It is also addressed that

the influence of lifestyle has not much studied in Indian context. So there is a need for studying functional food acceptance in India in the light of the above raised issues.

The research study is based on a comprehensive literature review on scattered research papers and market analysis reports from 1996 to 2014, focusing on the socio-demographic and lifestyle determinants of consumers and their influence on the purchase decision of functional foods in India. The study derives hypothetical support from two theoretical models – The Theory of Planned Behavior (TPB) and Health Belief Model (HBM) for the acceptance of FFPs. The present review is framed in the light of consumers' socio-demographic and lifestyle changes, consumers' knowledge about FFPs and finally perceived benefit and risk of FFPs. All these led to the development of consumer acceptance model for functional foods in India.

## **2. PURPOSE OF THE STUDY**

The prime aim of this paper is to identify and assess the socio-demographic and lifestyle determinants of consumers and their influence on the purchase decision of functional foods in India. The specific objective of the conceptual paper is to investigate the role of socio-demographics, lifestyle variables and consumers knowledge about FFPs on the acceptance of FFPs. Consequently, based on consumer socio-demographic, lifestyle determinants and consumer knowledge about functional foods, the present study is proposed to develop an integrated functional foods acceptance model for the Indian consumer market. For the development of this model integrating the acceptance of functional foods, this paper has mainly focused on the important variables of consumer acceptance. They are: socio-demographic determinants, changes in lifestyle of consumers, consumer knowledge about functional foods, perceived threat of NCDs, perceived benefit and perceived risk of FFPs.

## **3. REVIEW OF LITERATURE**

### **3.1 Noncommunicable Diseases (NCDs)**

NCDs constitute one of the main challenges for growth in the 21st century. NCDs act as fundamental barriers to poverty alleviation and sustainable development of the nation. NCDs mainly cardiovascular diseases, cancers, chronic respiratory diseases and diabetes are the world's largest killers and the leading cause of death globally. NCDs were responsible for the majority of

premature deaths and it was noticed that 82% of total premature deaths, occur in low-and middle-income countries. It is identified that four main shared risk factors-tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol-are the most important in the sphere of NCDs (World Health Organization, 2014). In India, NCDs were responsible for 9,816,000 deaths that is, 60% of the total deaths in India and the probability of dying between ages 30 and 70 years (Premature mortality) due to NCDs is 26% (WHO, 2014). WHO estimates that by 2030, 67% of all the deaths in India will be due to NCDs like diabetes, cardio-vascular diseases and some type of cancer. The World Health Organization (WHO) identifies nutrition as a significant and manageable determinant of chronic disease, stressing the need for a shift in nutrient intake towards healthier or functional foods. Moreover functional foods have the potential to improve the health and well-being of people and may reduce the chances of the development of major diseases such as cardiovascular disease, cancer and osteoporosis (Diplock, 1999).

A profound shift in the balance of the major causes of death and disease has already occurred in developed countries and is under way in many developing countries. The burden of NCDs has rapidly increased. In view of these facts the prevention of NCDs presents a major challenge to global public health (WHO, 2004). India has the dubious distinction of being known as the coronary and diabetes capital of the world (Gupta, Guptha, Sharma, Gupta & Deedwania 2012). While looking to all these facts it is the responsibility of the Govt. and public health policy makers to reframe the food regulations and promote functional foods in Indian consumer market. The concept of health care marketing is a recent phenomenon even though today as many as 131 different marketing strategies have been identified and as a result it is a great task of marketing manager to apply the appropriate strategy to win the target consumer especially in functional food marketing. The reason is marketing of functional foods remains competitive and a new concept to the Indian consumer.

### **3.2 Functional Foods**

The concept of “functional food” was introduced in Japan in the 1980s. Since then various efforts have been made to define functional foods. Still there is no globally accepted definition. Functional foods are food products that contain vital nutrients that go beyond just nurturing usual growth and development of an individual (Jain, Sharma, & Khadke 2014). Functional foods are foods that may provide health benefits beyond basic nutrition. Functional food and beverages

includes white oats, probiotics, nuts, tomato products, yogurt, sports and energy drinks, and fibres, fatty acids, vitamins and minerals in the form of capsules and tablets, are part of dietary supplements (The Economic Times, 2015).

### **3.3 Functional Foods: Indian Scenario**

The Indian civilizations have specified evidence suggesting that foods can be effectively used as medicine to treat and prevent many diseases. Nutraceuticals is a wide term used to describe any product derived from food sources that offers extra health benefits in addition to the basic nutritional value found in foods (Bhowmik , Gopinath, Kumar, Duraivel & Kumar, 2013). According to Research and Consulting Outsourcing Services (RNCOS), nutraceuticals industry includes three segments - functional food, functional beverages and dietary supplements (The Economic Times, 2015). It was identified that while quantifying the market strength of FFPs market the term nutraceuticals is used interchangeably. Consequently, it is difficult to quantify the FFPs market because of different definition is used in different countries (Weststrate, Poppel & Verschuren, 2002). The Indian nutraceuticals industry is expected to grow at 20 per cent to USD 6.1 billion by 2019-2020 due to rising awareness about health and fitness and changing lifestyle (The Economic Times, 2015).

Functional food is a relatively new concept to Indian consumers. Food Safety and Standard Act (FSSA) (2006) is the single reference point in relation to regulation of functional foods in India. However, Food Safety and Standards Authority of India (FSSAI) (2006) definition is relevant in Indian context. Broadly “Functional food” may be defined as a food which influences specific functions in the body that may provide added health benefits or remedy from some diseased condition following the addition/concentration of a beneficial ingredient, or removal/substitution of an ineffective or harmful ingredient.

The functional foods in India is one of the speedy growing markets in the Asia-Pacific region (The Economic Times, 2015). Subsequently the functional food market positioned for their health benefits will continue to be strong for the next several decades. The driving forces like rising awareness about health and fitness, ageing population, changing lifestyle are fostering this growth. The functional food market in India is growing at a rapid pace as health as a value has percolated in the Indian society undergoing dramatic demographic shifts (Sharma & Garg, 2013)

as people's awareness of influence of diet on health has been increasing. Moreover the consumers of India are not satisfied any more with enough food and clothes, but are also eager to obtain a quality life of high nutrient food, comfortable livings, health care and other quality services (Hubacek, Guan & Barua, 2007). The most popular FFPs are energy or sports drinks, probiotic dairy products, heart health spreads and ready-to-eat cereals (Weststrate et.al, 2002). The prominent types of functional foods are presented in table 1.

**Table 1.** Prominent types of Functional Foods

<b>Types of Functional Food</b>	<b>Definition</b>
Fortified products	A food fortified with additional nutrients
Enriched products	A food with added new nutrients or components not normally found in a particular food
Altered products	A food from which a deleterious component has been removed, reduced or replaced with another substance with beneficial effects
Non-altered products	Foods naturally containing increased content of nutrients or components
Enhanced products	A food which one of the component has been naturally enhanced through special growing conditions, new feed composition, genetic manipulation or otherwise.

Source: Siro'et al (2008)

### **3.4 Theory of Planned Behavior (TPB) and Health Belief Model (HBM)**

The success of a marketing model essentially lies in researcher's ability to identify the variables that really differentiate consumers' performance in the marketplace. The TPB (Ajzen, 1991) started as the Theory of Reasoned Action (TRA) in 1980 to forecast an individual's intention to involve in an action or behavior at a particular time and place. The TPB is an extension of the TRA. The TPB differs from the TRA in its addition of perceived behavioral control, which plays an important part in TPB. Perceived behavioral control refers to people's perception of the ease

or difficulty of performing the behavior of interest. The fundamental factor in the TPB is the individual's intention to perform a given behavior. Intentions are led by attitude. As a common rule, the stronger the intention to involve in a behavior, the more likely should be its performance. In this conceptual paper some of the constructs of TPB has been taken for developing a functional food acceptance model in Indian context. The TPB (Ajzen, 1991) suggests that behaviour is an outcome of attitude, social norms, and perceived behavioral control related to the object (e.g. Intention to purchase FFPs) and intention to execute the behaviour (e.g. Acceptance of FFPs).

The TPB has been used successfully to predict and describe a wide range of health behaviors; however TPB is not completely removed from the limitations. There are several limitations for TPB; among them important one is it does not account for some variables like fear, threat, mood or past experience that influence into behavioral intention and motivation. For overcoming this limitation and also for getting more accurate results, the present study has taken some of the constructs from the Health Belief Model (HBM) (Janz & Becker, 1984) also; these are perceived susceptibility, perceived seriousness and perceived threat. The HBM postulates that a person's belief in a personal threat of an illness or disease together with a person's belief in the efficacy of the recommended health behavior or action will predict the likelihood the person will accept the behavior (Janz et.al, 1984). The important constructs of HBM taken in the present study are:

Perceived susceptibility- This refers to a person's subjective perception of the risk of obtaining an illness or NCDs. Sometimes people may think about health preventive actions based on this fear perceived susceptibility. Acceptance of Functional foods increases with the presence of an ill family member (Verbeke, 2005).

Perceived seriousness- This refers to a person's feelings on the severity of contracting an illness or NCDs. There is a wide-ranging change in an individual's feelings of severity according to the awareness of the seriousness of illness.

Perceived threat- Perceived threat is a person's perception about the danger or hazards of an illness or NCDs. It is an outcome of the perceived susceptibility and perceived seriousness. Perceived threat has direct influence on the likelihood of action (e.g. intention to purchase FFPs).



### **3.5 Determinants of Functional Foods Acceptance**

The process by which consumer accepts or rejects food is of both dynamic and variable in nature and consumers' food preference is largely determined by both nutrition and pleasure resulting from food consumption. Food choice is influenced by a large number of factors, including social and cultural factors (Shepherd, 1999) still, food choice is not simple thing, but a complex human behavior influenced by many interrelating factors such as socio-demographic factors, life style and cultural determinants. Acceptance of a food is basically the result of the interaction between food and man at a certain moment (Shepherd, 1989). It is identified that for the safety and better consumption of functional foods in the future, it's important to identify and characterize functional food users and understand their knowledge, norms and motivation to use such products (Jong, Ocke', Branderhorst & Friele, 2003). One of the important methods for trying to understand the impact of these factors on acceptance of food is through the learning of consumer attitudes. This conceptual paper utilizes social psychological attitude models of attitude behavior relationships, in particular The TPB and HBM for better understanding of the influence of various factors on the acceptance of functional food products in India. This approach has shown good prediction of consumer behavior and acceptance, but there are a number of possible extensions to these basic models which might improve its utility. Few of such extension is the inclusion of consumer's lifestyle factors, perceived threat, perceived benefits and perceived risk of consumers which have been found to be important for the choice of functional foods. These are discussed below.

### **3.6 Socio-Demographic Determinants**

Consumer acceptance of different products differ cross-culturally and intra-individually (Frewer et al.,2003). Socio-demographic and lifestyle determinants of consumers have influence on the acceptance of functional foods (Bornkessel, Bröring, Omta, 2011; Jayasree, 2011; Niva, 2006). Socio-demographic trends are showing a favorable pace towards functional food, accordingly it can be expected that functional food represents a sustainable trend in the food market (Menrad, 2003). Consumption of FFPs differs according to the socio-demographic background of the consumers (Bogue, Coleman & Sorenson, 2005) and Büyükkaragöz, Aylin, Bas, Murat, Sağlam, Cengiz & Ecem (2014) identified that socio-demographic characteristics are important indicators that influence consumers' awareness and consumption of functional foods. Hence, it is essential

to the food marketers to understand clearly the target consumers in the light of socio-demographic backgrounds.

Previous research studies have shown that functional food consumption vary according to gender differences, female consumers were more likely than males to perceive healthy diets and they were more interested in health issues (Monneuse, Bellisle, & Koppert, 1997; Bogue et.al, 2005; Niva, 2006). The relationship between functional food consumption and age is confusing. From the past research studies it is clear that old aged people are more eager to accept disease preventative food habits (Childs, 1997). Poulsen (1999) and Verbeke (2005) found that older consumers (aged 55+) and female are more positive about FFPs and found that higher acceptance of healthy foods among the lower educated. In contrast with the previous conclusion about the impact of education, Jong et.al, (2003) pointed that FFPs consumers are better educated and having higher income and are more often married. The findings of Anttolainen, Luoto, Uutela, Boice, Jr, Blot, McLaughlin, & Puska (2001); Bogue et.al, (2005); Gilbert (1997) also confirmed that functional food users were better educated and had higher incomes. Brecic, Gorton & Barjolle (2014) also supported that females and those with higher levels of educational achievement are heavier consumers of FFPs. Subsequently it is found that consumers of higher socio-economic groups have higher intake of health-enhancing foods and were more known about the health benefits of health-enhancing foods than the lower socio-economic groups (Bogue et.al, 2005).It may be concluded that functional foods consumption was related with good socioeconomic status (Niva, 2006; Rezai, Teng, Mohamed & Shamsudin, 2012). All these research studies lead to the conclusion that the influence of socio-demographic factors varies according to different geographic and cultural settings. Moreover a few studies have discussed these concerns in Indian scenario. So there is a need to study these issues in Indian context.

### **3.7 Lifestyle Factors**

Understanding the consumer behavior is very important in marketing. While assessing consumer behavior, demographic determinants have received broader acceptance and lend themselves easily to quantification and easy consumer classification (Kucukemiroglu, 1997). Over the years, a large number of research studies have been done on consumer demographic variables to understand consumer behavior in terms of functional food purchase decisions (Urala & Lahteenmaki,2003; Jong et al.,2003; Bogue et al.,2005; Wim Verbeke, 2005; Niva 2006;

Annunziata and Vecchio, 2010; Brecic et al., 2014; Vella, Stratton, Sheeshka & Duncan 2014). However, demographics alone do not give a whole picture of the consumer (Cooper, 1984). Consumer behavior towards food product is very complex and dynamic in nature. Lifestyle segmentation has been a very beneficial concept for marketing and advertisement planners (Wells & Tigert, 1971). Recent research studies reveal that lifestyle determinants of consumers have influence on the acceptance of functional foods (Bornkessel et.al, 2011; Jayasree, 2011). Furthermore due to the dramatic change in lifestyle of Indian consumers and increase in the health consciousness among people, there is a need for studying the consumer lifestyle, as having a major role on the acceptance of FFP's in India.

Lifestyles are defined as patterns in which people live and spend time and money. They are a function of consumer's motivations and prior learning, social class, demographics, and other variables. Lifestyle is a summary construct reflecting the values of consumers (Engel, Blackwell & Miniard, 1990). Lifestyle refers to consumer's activities interests and opinion (AIO). More precisely what consumers like to do, what are their areas of interest, and what are the opinion people hold on various things. (Lazer & William, 1963, Plumer, 1974). Many approaches are available to the study of lifestyle variables. For better market segmentation (Orsay Kucukemiroglu, 1997) identified eight different lifestyle dimensions, they are health consciousness factor, fashion conscious factor, leadership factor, family concern factor, care-free factor, community consciousness factor, cost consciousness factor and practicality factor. The effect of each lifestyle dimension varies according to the product category and some of these lifestyle dimensions have influence on the attitude towards FFPs.

As a result of lifestyle changes, unbalanced diet of Indians are common in the present day which has led to complex health problems and spread of NCD's among Indian people (Jain et.al, 2014). Previous research studies identified that prevention of disease through dietary modification will increase the healthiness of the population (Hasler, 2000). Health consciousness and preventative health behavior act as positive influencers on functional food acceptance (Pferdekamper, 2003; Rezai et.al, 2012). Apart from socio-demographic factors, lifestyle-related factor like practices of maintaining health is associated functional foods consumption (Niva, 2006). Inadequate physical activity and unhealthy lifestyle is a main cause for obesity and other NCDs. Insufficient physical activity was defined as the percentage of adults aged 18+ years not meeting the WHO

recommendations on physical activity for health, which is, doing less than 150 minutes of moderate physical activity per week, or equivalent (WHO, 2014). Healthy lifestyle will help people to maintain their physical health and prevent NCDs to a large extent. It is found that over male respondents female respondents are ready to change their lifestyle by increasing nutritionally enriched food to their diet (Jain et.al, 2014).

Earlier research studies identified that consumers' attractiveness of functional foods is likely to change with the degree of anxiety for their personal health and health status (Hartman, Wright & Hartman, 1999). It was found that among lifestyle variables, protection of health status is the key factor for the consumption of FFPs (Urala, 2005). Cranfield, Henson & masakure (2011) identified that perceived health status and consumption of functional foods have a positive relationship. Finally it is concluded that FFPs provide consumers a modern way to follow a healthy lifestyle (Siro, Ka'polna, Ka'polna & Lugasi, 2008) which will help the people to improve their health status and prevent the development of lifestyle diseases.

### **3.8 Perceived Benefits**

Perceived benefits and its recognition are very important factors of consumer acceptance of personalized nutrition (Dowd & Burke, 2013) supporting this, the general success factors for the marketing of FFP's are taste of the products, optimal convenience, proven safety and efficacy, acceptable price level, product varieties at different packaging volumes, a clear regulatory framework for making claims and powerful distribution channel to reach the ultimate consumers (Menrad, 2003; Weststrate et.al, 2002). Taste of FFP's have an influence on the purchase decision of consumers, Asian people have always recognized the significance of sensory properties of foods (Arai, 2002). Urala and Lahteenmaki (2003) identified healthiness of FFPs, taste and pleasure, security and familiarity, convenience and price of FFPs are standing as the reasons behind consumer's functional food choice. Subsequently Urala and La'hteenma'ki (2004) confirmed that the key attraction for consumers towards FFPs is the perceived benefit to personal health. So it is clear that perceived benefits have a positive influence on the intention to purchase FFPs.

### **3.9 Perceived Risk**

The term perceived risk means the person's subjective belief about potentially adverse consequences from his/her decision (Mansour, Samadi & Nejadi, 2009). More clearly, Perceived risk is generally regarded as the individual's perception of the uncertain and negative consequences of engaging in an activity. Understanding consumer's perceived risk is important for new product development and in its marketing. Frewer et.al, (2003) postulated that consumer risk perceptions have a major role in the acceptance of functional foods. Jacob et.al, (1972); Schiffman & Kanuk (1994) identified six components or types of perceived risk; financial, functional, social, psychological, physical, and time risk. The present research has considered all these perceived risk components to develop the acceptance model of FFPs. There are different components of perceived risks related to the purchase intention of FFPs. 1) perceived financial risk- refers to the net loss of money to a customer or high price charged for the FFPs. It is true that consumers are unwilling to pay premium prices for FFPs (Frewer et.al, 2003). One reason for the limited market success of Functional Food Product is high prices charged (Menrad, 2003), 2) perceived functional risk- is defined as the loss incurred when a product or brand does not perform as expected (Horton, 1976), 3) perceived social risk- is the degree to which the consumer thinks about the society and peers judge him on the basis of the brand or product he consumes, 4) perceived psychological risk- refer to the perceived distress, frustration, and shame related to the purchase behavior, 5) perceived physical risk- is the perceived risk for the side effects or bodily harm to a person or loved one from the purchase and 6) perceived time risk- is the perceived loss of time to get the product available.

### **3.10 Knowledge of Functional Food Products (FFPs)**

Due to lack of consumers awareness and knowledge regarding the health effects of functional foods ingredients, there are solid needs for specific information and communication activities to consumers and health professionals, this information exchange is regarded as crucial success factor for the marketing of FFPs (Menrad, 2003; Weststrate et.al, 2002). Consequently the introduction of FFPs will be successful in the market with the simultaneous introduction of information about FFPs, which will be helpful in consumer's choice and purchase decisions (Frewer et.al, 2003). It was reported that increased knowledge and awareness of functional foods and food ingredients were positively contribute to the success of functional foods in the market

(Hilliam, 1996; Vella et.al, 2014) and also it is evident in the previous research that attitudes to food behaviour and perceived effect of diet on health are the strongest predictors of healthy food behavior (Bogue et.al, 2005). So information and knowledge is the key factor to influence consumers' willingness to accept FFPs (Giudice & Pascucci, 2010). Moreover the credibility and trustworthiness of source of information has a positive impact on the valuation and acceptance of functional foods (Cox et al. 2008; Hansen et al. 2003). Similarly for improving public health, it is essential to communicate the health benefits of FFP's to the public, through intermediaries such as health professionals, educators, the media and the food industry (Diplock, 1999).

It is identified that consumer's belief in the health benefits of functional foods is the leading positive factor for FFPs acceptance and acceptance of functional foods also increases with the presence of an ill family member (Verbeke, 2005). As a result, experience of illness will lead people to take preventive food habits. Further (Jain et.al, 2014) pointed that main reason behind the consumption of nutritionally enriched food is to stay healthy and also to avoid medical treatment. Health benefits of FFPs and belief about the trustworthiness of information are the main positive determinants of the acceptance of functional foods (Labrecque et.al, 2006). FFPs offer a number of health claims, consumers want to be able to trust claims. In a world with an abundance of alternatives, brands become beacons of trust and guidance for consumers (Weststrate et.al, 2002) so marketers need to build strong brand equity to their products. It is clear from the recent research studies (Büyükkaragöz, Aylin, Bas, Murat, Sağlam, Cengiz & Ecemal, 2014; Hassan & Mustapha 2010) that for improving consumers' interest in functional foods, scientific benefit of functional foods to be properly communicated and convince with consumers to improve their health by consuming FFPs. Finally, for improving the consumer knowledge and awareness on FFPs, the information provided on the nutrition label should use less medical scientific terms and give more clarity on the potential benefits of consuming FFPs.

### **3.11 Consumer Acceptance of Functional Food Products (FFPs)**

Consumer acceptance is pivotal for the market success of new functional food products (Bornkessel et.al., 2011; Annunziata & Vecchio 2010; Siro' et.al, 2008; Verbeke, 2005). Additionally increase in people's awareness on influence of diet on health will enhance functional foods market in India. The prime factor for the past success or failure of functional foods is the ability to develop and market a high-quality functional food product. This is the

reason for the failure of pharmaceutical companies in the functional foods market (Menrad, 2003). In view of all these points, consumers socio-demographic factors, changing lifestyle of consumers, consumer knowledge about functional foods, perceived benefits and risk of FFPs has considered for the development of consumer acceptance model for functional foods in Indian consumer market because consumer acceptance is the key factor for the market success of functional food products. Recent research studies show that consumers' responses to food are not only based on the sensory characteristics of the product but they are also related to healthy aspects of the product. The main reason is the increase in the consumer awareness of relationship of health and diet.

#### **4. CONCEPTUAL FRAMEWORK**

In India, relatively few studies have investigated the role of socio-demographic and lifestyle determinants in the acceptability of FFPs. The study has focused on the consumer's socio-demographic and lifestyle determinants and consumer knowledge about functional foods and its influence on FFPs acceptance. On the basis of comprehensive literature review, this paper analyzed the relationship between consumer's views on functional foods, their knowledge and awareness about functional food benefits on the light of socio-demographic and consumer lifestyle backgrounds. Consequently on the consideration of all these thrust areas, this conceptual paper has developed an integrated functional foods acceptance model for Indian consumer market (figure.1). The model will help the corporates in the functional food industry to segment the consumers and position their functional food products successfully. This will also help the health policy makers to develop and implement the required programs to improve the public health.

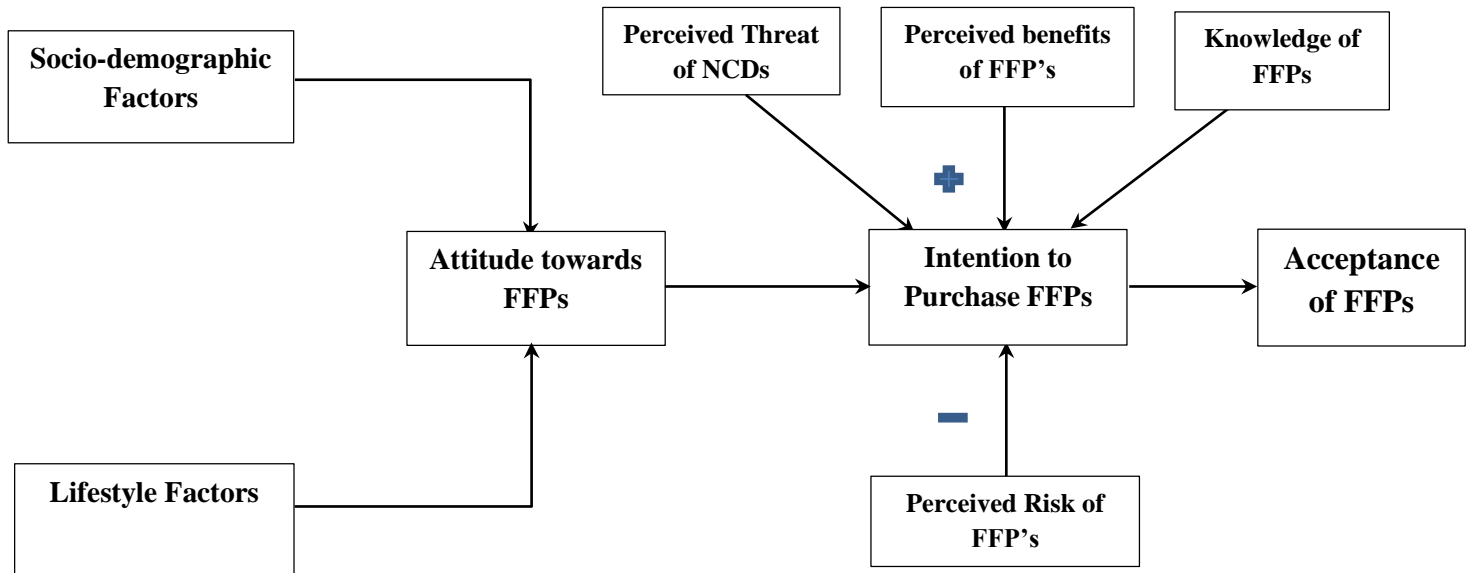


Figure 1. Functional Foods Acceptance Model in India

In the conceptual framework, the socio-demographic factors considered are age, gender, level of education and income status of consumers. From the review of literature it is identified that these socio-demographic factors have significant influence on attitude formation towards FFPs. Apart from the above factors occupation of consumer have to be considered because it has long been acknowledged that certain occupational exposures will exacerbate or even cause NCDs (Price, 2004). Additionally it is noticed that there is only limited studies for incorporating the occupation and FFPs acceptance particularly in India. However, demographics alone do not give a whole picture of the consumer (Cooper, 1984). Consumer's lifestyle variables like increase in health consciousness, time spending on physical activities, preventive health behavior and perceived health status also have influence on attitude towards FFPs. It is identified that by incorporating these lifestyle changes with demographic information, the marketer will better understand the needs and wants of the consumers (Bornkessel et.al., 2011; Jayasree, 2011). Subsequently attitude has been displayed a reliable predictor of behavioural intention concerning food choices (Dowd et.al, 2013). Further this intention of purchase has positively influenced by perceived



threat of NCDs, perceived benefits of FFPs like healthiness, safety, naturalness, taste, convenience and nourishment of FFPs and consumer's knowledge of FFPs. It is addressed that knowledge is the key factor to influence consumers' willingness to accept FFPs (Giudice & Pascucci 2010) and all these positive factors over the negative influence of perceived risk of FFP's like high price of FFPs, perceived risk about quality, side effects of FFPs and time taken to access the FFPs will finally appear to contribute directly to the acceptance of FFPs in India.

## **5. IMPLICATIONS**

For the success of the functional foods market, consumer acceptance has a vital role. Socio-demographic and lifestyle determinants of consumers have influence on the acceptance of functional foods (Bornkessel et.al, 2011; Jayasree, 2011). Moreover consumer knowledge about functional foods, perceived threat of NCDs, perceived benefits and risk are also inevitable factors for consumer acceptance. Based on the thoroughly researched secondary data, the model developed for the functional foods acceptance to the Indian consumer market will be a contribution to the existing theory of consumer behavior in functional foods marketing. FFPs market is an emerging market in India and very few studies were discussed about the marketing aspects of FFPs in Indian context. So the present study close the gap in the literature related to influence of consumer's lifestyle factors, perceived benefit and perceived risk of FFPs on the acceptance of FFPs in India. As a theoretical implication, this research study gives an extension to the existing literature and this model can act as a guide line to the marketers for successful marketing of new consumer products in future and also this research can assist health policy makers to implement appropriate strategies to improve the nutritional status of the consumers.

Functional food is the single fastest growing segment in the food market (Verbeke, 2005) consequently this trend has also been reflecting in the Indian consumer market too. As a result a lot of corporates are coming to Indian consumer market with new functional food products. Indian consumer market is highly competitive and lucrative. So it is very important for the corporates to position their products successfully in the minds of consumers. A better understanding of the determinants of consumer purchase decision on functional food is essential. In the conceptual paper, based on the strong literature support the model developed for functional foods acceptance to the Indian consumer market will be beneficial to the marketers for making functional foods promotional strategies. The model will help the marketers for successful product

positioning and marketing of functional foods in Indian market. The practical implications of these results are important for multinational food retailers or international agribusinesses who wish to enter Indian markets. This research can assist food industry in developing appropriate marketing strategies within the Functional Foods sector.

## **6. CONCLUSION**

Previous research studies reviewed in the present conceptual paper has revealed a broader view of consumer behavior and attitude towards functional food products. Based on this comprehensive review of literature, the study has identified and evaluated the various variables of consumer acceptance and accordingly developed a functional food acceptance model to Indian market. From the review of literature it was consistent that socio-demographic and lifestyle factors are playing a major role in consumer attitude towards FFPs. Subsequently consumers' knowledge and awareness about FFPs, perceived threat of NCDs and the perceived benefits of FFPs over perceived risk also directly contribute to the intention to purchase FFPs.

It was found that FFPs are sold at premium prices, thus FFPs industry is highly lucrative than conventional food sector. This excess profit is the main attraction for the food corporates and other key players towards the functional food industry. However, before going to develop the whole market for FFPs, companies needed to give focus on their efforts to make aware of consumers and communicating the health claims clearly to make them trust on FFPs. Future research is needed to shed light on the above raised issues and proving the empirical aspects on the application of functional food acceptance model in Indian context.

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