Emergence of Branded Functional Food in Indian Market

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Abstract

India is on the brink of a health crisis due to rise in Cardiovascular disease(CVD) amplified by Diabetes, obesity and hypertension. It is listed as second highest CVD incidence in the world with high mortality rates, after China. This could be directly connected with the rise in lifestyle changes owing to change in disposable incomes, sedentary lifestyle and change in food habits. However, research suggests that people are making positive change in their lifestyle by opting better health improving foods and activity. This paper, is a review of the market readiness for Functional foods with a comparison of global and Indian health issues and posing these food as a possible solution. Functional food along with nutraceuticals has emerged all over the world as the future of food that can fit into regular diet. Indian consumers are poised to adopt these food given their health condition and health consciousness. However, it is found that among other reasons, there is lack of knowledge for products leading to lower rates of adoption.

Keywords: Functional food, consumer food habits transformation, Functional food market – global and India perspective.

Introduction

Health, Food and Medicine

Cardiovascular disease(CVD) has turned out to be the number one global health burden in recent years. Since 1990, cases have nearly doubled from 271 million to 523 million in 2019 and mortality rates have also risen world over with an exception of few countries. High systolic blood pressure and dietary risks are the two main reasons attributed to this (Roth, 2020). While this is now a common phenomenon through the world, Japan interestingly continues to have the lowest CVD cases and a high average life expectancy(Nojiri & Daida, 2017). Many studies have tried to understand the reason for Japan's unusual low rate of mortality from Ischemic heart disease (IHD) and cancer as also its longest life expectancy, researchers discuss the undeniable connection with food as medicine a philosophy that is true in Oriental countries. CVD and Coronary heart disease is connected with obesity, high blood pressure as main reason among others and Japan has managed to reduce both through lower consumption of saturated greasy acids, red meat, and consume high amounts of fish; polyunsaturated fatty acids, plant foods and brews such as green tea. The diet is low salt and as such decrease in blood pressure (Tsugane, 2021)

This shift was brought about through a significant decision 40 years back by Japan to investigate the link between food and medicine and develop foods that would reduce the burden of a steep health-care cost plaguing the nation. Consequently the origin of these foods primarily developed in 1980s and was commenced by The Ministry of Health and Welfare, Japan, to certify foods with proven health benefits. In 1984, the Ministry of Education, Science and Culture (MESC), begun a countrywide plan to discover the association between food and medical sciences (Arai, 1996) The term 'Functional food' was used first in a Nature news magazine in 1993 under 'Japan explores the boundary between food and medicine' as physiologically functional food (Swinbanks and O'Brien, 1993). The first Functional food modified was hypoallergenic rice followed by other foods approved under Food for specified health use (FOSHU) category.

What is Functional Food?

*"*Food products can only be considered functional if together with the basic nutritional impact it has beneficial effects on one or more functions of the human organism thus either improving the general and physical conditions or/and decreasing the risk of the evolution of diseases" (Martirosyan & Singh, 2015) They are foods consumed as normal diet however, the benefits go beyond traditional nutritional value. The functionalities of these foods benefits have to be analysed to verify the improved function claim or the

reduced disease risk claim. These food is known to boost immunity and help in digestion, keep a healthy GI, Thyroid issues, inflammation, hormonal imbalance, neurodegenerative ailments, bone health, autoimmune diseases, diabetes and aging well. Research is being undertaken for integrating oncological cases too.

These food contains bioactive compounds and can be in the following forms (1) a natural functional food (2) addition of component to the food (3) removal of component from the food (4) modification of one or more components in the food (5) bioavailability modified. It could be any of the combination of these. Thus, these food is a key concept of nutrition developed with strong scientific research because it results from all scientific knowledge gained over the past three decades in knowledge of nutrition (Henry, 2010).

Specific Benefits of Functional Food

Functional food when consumed has a particular function focusing on regulating a targeted body organ/function (1) to enhance biological defence mechanisms against infections and disease (2) to prevent specific diseases from occurring (3) to recover if the body function has been affected by specific disease (4) to control both physiological and psychological disorders (5) to slow down aging process

Table 1. List of functional foods, their associated bioactive compounds and benefits

Component/Compound	Origin/ Source	Possible benefit from consumption
Beta-carotene	carrots, pumpkin, sweet potatoes, spinach, tomatoes	neutralizes damaging cells from free radicals, ups cellular antioxidant defences; can be changed into vitamin A after consumption
Lycopene	watermelon, red grapefruit, tomatoes and processed tomato	maintains prostate health
Insoluble fibre	wheat bran, corn bran	looking after of gastrointestinal health; may reduce the risk of cancer
Beta-glucan	oat bran, oatmeal, oat flour, barley	reduce risk of coronary heart disease (CHD)
Whole grains	cereal grains, whole wheat bread, oatmeal, brown rice	can lower risk of CHD and some cancers; maintains healthy blood glucose levels

Polyunsaturated fatty acids (PUFAs) Omega-3 fatty acids- ALA	walnuts, flaxseeds	maintains heart and eye health; supports and maintains mental function
PUFAs-Omega-3 fatty acids- DHA/EPA	salmon, tuna and other fish oils	May lower the risk of CHD; supports eye health and mental function
Flavanols-Catechins, Epicatechins, Epigallocatechin	tea, apples, grapes, cocoa, chocolate	It supports heart health
Procyanidins and Proanthocyanidins	apples, strawberries, cocoa, cranberries, grapes, red wine, peanuts, cinnamon, tea, chocolate	supports the maintenance of urinary tract health and heart health
MINERALS Calcium, magnesium, Potassium, Selenium	spinach, yoghurt, low-fat dairy products, fortified foods and beverages pumpkin seeds, cereals and whole-grain bread, halibut, almonds, beans, potatoes, leafy greens, fish, red meat, whole grains, garlic, liver, eggs	osteoporosis risk reduced, normal muscle and nerve function maintained, improves immune and bone health, prevents high blood pressure and stroke
Xylitol, Sorbitol, Mannitol, Lactitol	chewing gums and other food applications	risk of dental disease reduced
PREBIOTICS Inulin, Fructo-oligosaccharides(FOS), Polydextrose	whole grains, onions, certain fruits, garlic, honey, leeks, banana, fortified foods and beverages	digestive health maintenance; helps in absorption of calcium
PROBIOTICS Yeast, *Lactobacilli, Bifidobacteria* and other specific strains of beneficial bacteria	certain yoghurts and other cultured dairy and non-dairy applications	digestive and immune health maintained;
Soy isoflavones – Daidzein, Genistein	soybeans and soy-based foods	bone and immune health maintained; supports healthy brain function; menopausal support
VITAMINS	carrots, sweet potato, milk, eggs, spinach, poultry, lentils, peas, brown rice, enriched white rice, pistachios and certain fortified breakfast cereals , organ/lean meats, soybean, green leafy vegetables	eye and bone health; contributes to cell health and growth, regulates metabolism, hormone balance, neutralizes free radicals; supports blood cell formation, maintains immune and heart health

(source: "Functional Foods," 2021)

Functional Food around the World

Functional foods has found consumer acceptance in developed industrialized countries and is considered one of the top trending food industry with enormous operational and strategic labour put in since 1990s by pharmaceutical and biotechnology firms. Global market size estimates the market size valued at **$177,770.0 million in 2019 and is estimated to reach $267,924.4 million by 2027** (Allied Market Research, 2020). Consumers are showing positive attitude towards health consciousness; driven by promise of reducing chronic diseases, slowing the aging process and as such looking at designer foods that can cater to the segment that has high disposable incomes and are serious about health (Verbeke, 2005) Functional foods have gained significant research attention since it is backed by rigorous scientific developmental steps and the benefits are visible in countries where consumers have adopted it. The popularity of these foods has led to an improved consciousness of food quality and the health benefits associated with these. Consumers actively look for ingredients in the food and benefits it claims/ promises. Thus it has aroused interest in consumers for consuming healthy foods and demand has shoot up for these foods.

The growing senior population in developed countries, unhealthy lifestyles of younger generation, increased rate of chronic diseases and high mortality rates through CVD are early youth are key aspects driving consumers to these foods and this mindfulness towards healthy life style driving towards market expansion. In developing countries, rise in disposable incomes, change in lifestyle habits leading to rise in chronic illness, availability and expansion of demand for fortified foods and beverages have become the factors for market potential of Functional foods (Frost & Sullivan, 2015)

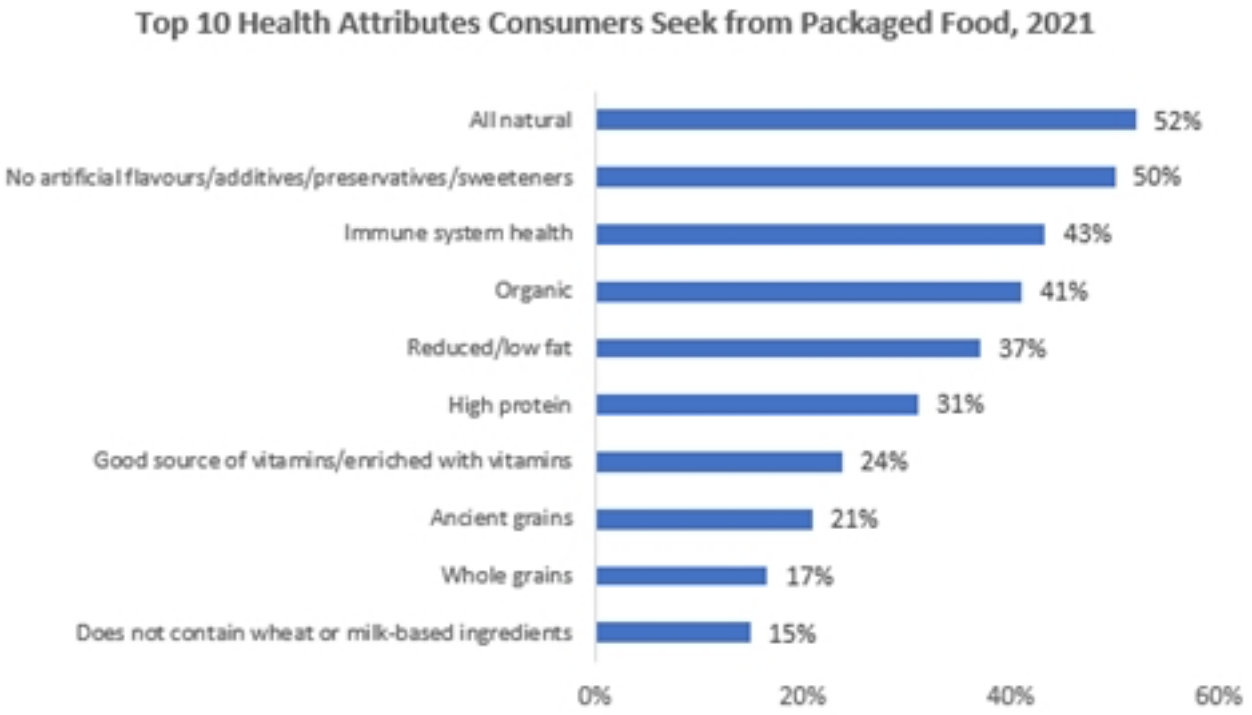
Many studies have been undertaken to understand the influential factors affecting the consumer acceptance of functional food, fitting it into routine and to also predict future behaviour towards Functional food acceptance. Some of the key factors influencing consumer acceptance can be categorised as product features, psychological characteristics, socio-demographic characteristics, behavioural characteristics and physical characteristics and is being widely studied across the world (Verbeke, 2005).

Functional Food in India

Functional food in India is still in its nascent stage, despite being launched for more than two decades it is yet to be well known as a concept and previous studies indicate growth of the category at varied levels. Data indicates that health and wellness foods is an INR 10,352 crore market with year-on-year growth rate

of 10%. Indian consumers who are willing to spend on healthy foods favour fortified foods (neilsen.com, 2021) of which Functional foods and beverages account for 35% of Indian market (FnBnews, 2021)

Consumers are now conscious of their health and switching to foods that are perceived to be healthier than the conventional foods found in the market. This "self-care" phenomenon is a trend nowadays. Presently, India holds world's 2% market; propelled by 18% growth in 2020 (NutrifyIndia, 2021)



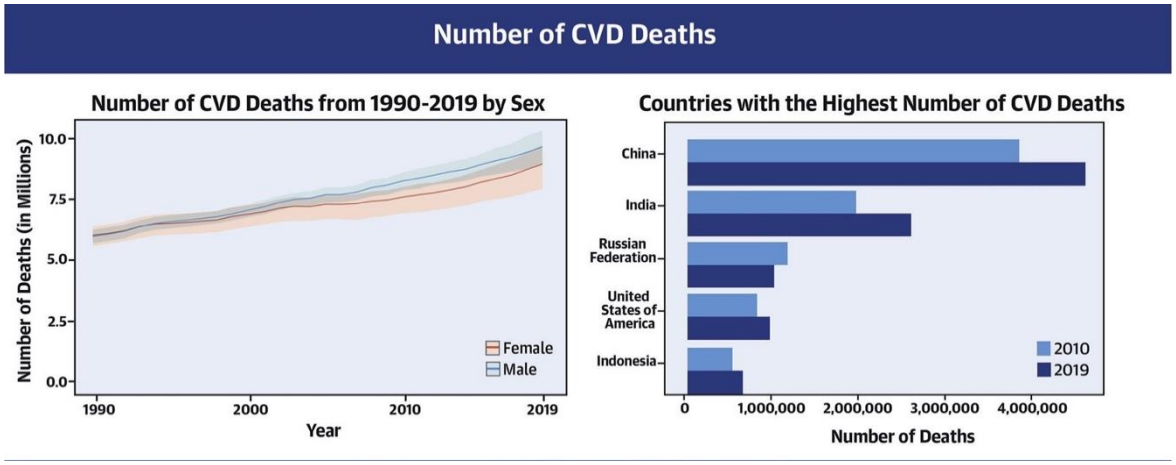
Source: Euromonitor International's Indian cities 2021, n=3,780

Figure 1: Health attributes that consumers seek from packaged food

The health and wellness product market now has foods that are all natural, vitamin enriched, multi-grain, Omega 3 fortified, whole wheat, high fibre, no preservatives, zero sugar, fat free, gluten free, no salt, zero calorie. Some of the well-known brand Functional food products available at market are Aashirvaad multi-grain atta, Quaker multigrain oats, Saffola Omega 3 enriched cooking oil, Kellogg's K breakfast and hunger health snacks such as Lay's baked chips, Britannia pioneered the no-sugar, trans-fat free, extra dietary fibres, diabetes management Nutrichoice biscuits, Dabur Real fruit juice. Food companies such as Nestlé India, Britannia Industries, Parle Products Pvt. Ltd., Kellogg's India, ITC Limited, Godrej Foods Ltd., Amul and Nestle, have launched probiotic healthy and low fat milk products. Marico launched Saffola brand of low-sodium salt and flour additives for cholesterol and diabetes management (Sharma & Garg, 2013)

Health Risk

The New Delhi Birth Cohort, undertaken between 1969 to 2009 a phased health study supported by the National Centre for Health Statistics (NCHS) and the Indian Council of Medical Research (ICMR) reported that the reasons for **CVD risk factor increase is a complex matter yet it can be associated with epidemiologic and nutritious transitions that usually accompanies economic development (**Huffman et al., 2011) Previous studies indicate, that high metabolic rate disturbance – hypertension, obesity, IGT, Type 2 diabetes maybe connected to maternal undernutrition, low birth weight that leads to subsequent health risk in adults (Omran, 2005). ICMR-INDIAB study of 2015 argues that incidence rate of obesity and central obesity varies from 11.8% to 31.3% and 16.9% to 36.3% respectively. Further according to Deepa et al. (2014), more than 135 million individuals are affected by obesity. Some of the main reasons are geographical environment, socio-economic status, age, gender. Abdominal obesity is one of the key risks related with cardiovascular disease (CVDs). Obesity is one of the challenges for the government. The Indian Council of Medical Research India Diabetes Study (ICMR-INDIAB study) reported India had 62.4 million people with diabetes in 2011 projected to increase to 101.2 million by 2030(Ahirwar & Mondal, 2019).



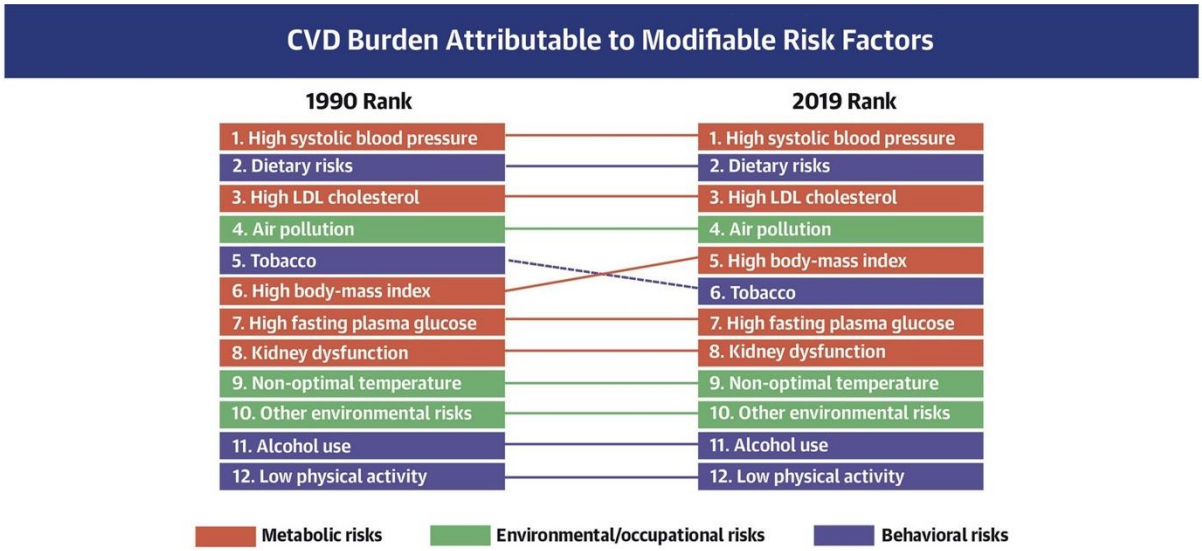


Figure 2: CVD

The intense rise in convenience foods can be attributed to the changing lifestyles. The middle-class consumers however follow the traditional food practices. Hence, these foods and beverages market in India is at early stages of growth. Based on the study by (Rajagopal, 2014) this market is estimated to witness a CAGR of 21.7 per cent by 2018, as an FMCG companies and competing in the Indian market by contributing the product line and width in this segment.

Various epidemiological and clinical studies validate the association between diet and health status. The plant based consumption and sea foods decreases CVD and other type of cancer and countries like Japan and France have adopted this (Shahidi, 2006).

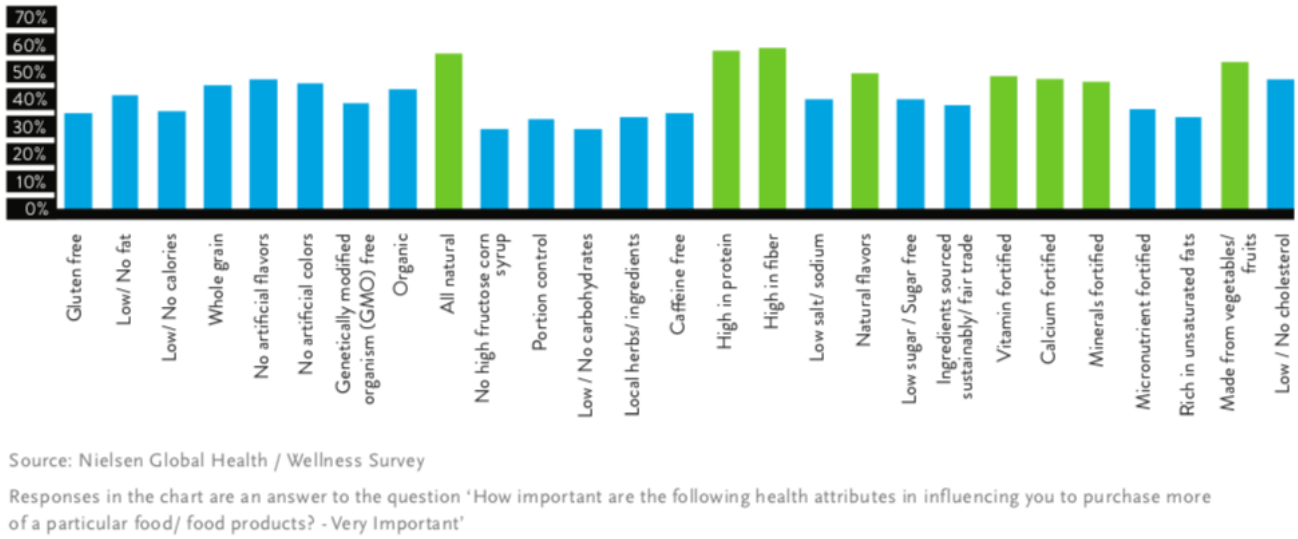
Transformation in Indian consumers

The impact of urbanization and its effect on changing food consumption patterns of India is visible in the average middle class household. Acceptance of packaged food, ready to eat foods, eating out or ordering-in, has become the norm. Apart from affordability, it is also due to factors such as ease of consumption, paucity of time, novelty seeking behaviour, media and peer influence and vast changes in habit. This change has however led to a negative impact on health and coupled with a sedentary lifestyle contributed to a shocking increase in cardiovascular diseases, diabetes, obesity and hypertension.

Indian urban consumers are now aware how early onset of diseases is connected with an unhealthy lifestyle and have begun to actively seek changes through health and wellness. According to Nielsen report, 2016, consumers consider foods with an increase in micronutrients like fibre, vitamins, protein, calcium and minerals as a vital element while making a food choice and purchase. These foods, are one of the solution, which many of the food marketers are introducing in various categories like dairy products, edible oils and

breakfast cereals. There is an accelerated demand for the functional food products, presenting tremendous growth opportunity for food companies (Sharma & Garg, 2013) Based on this, substantial interest has been expressed by industrialists, health professionals, and customers in these types of foods. There is a shift and a transformation in the approach to food selection and consumption by consumers; from passive to active involvement and positive change in behaviour.

As research studies imply, India's is moving vigorously towards the path of consuming natural healthy food, this market is likely grow manifold in years ahead. Especially in sub categories like energy drinks, enhanced juices, probiotics and omega fortified foods and beverages.



Source: Nielsen Global Health / Wellness Survey

Responses in the chart are an answer to the question 'How important are the following health attributes in influencing you to purchase more of a particular food/ food products? - Very Important'

Figure 3: Importance of health attributes in purchase decision

Conclusion

According to (Roberfroid, 2002) Food scientists, food technology companies harness the opportunity to develop Functional foods for health and reduced risk of diseases. Though, the accomplishment of this method to nutrition will involve identification, classification and improvement of procedures to measure and the authenticate indicators and claims through well devised accepted steps and tests. Marketers have the responsibility to educate and claim only what is possible by Functional food compounds of specific foods without unscientific over claims thereby staying true to the potential benefits of the Functional food ingredient.

Consumers for their part need to be educated that no food even one such as Functional food in a magic pill, and would help poor health habits (Hasler, 2002)Functional foods work when consumers treat diet as one

aspect of overall wellbeing. A comprehensive all round change in lifestyle that includes regular exercise, avoidance of health vices is required to live healthy life.

Reports from Consumer Market research agencies such as Nielsen and Future Market Insights, indicate the boom in the Functional food market and consumer readiness. It is not a surprise that as global trend, even in India, the country's top 10 FMCG brands like Nestle, Unilever, Danone and huge pharmaceutical companies such as GSK, Amway, Ranbaxy are investing in Functional food market. The necessity to study consumers perspective of these foods becomes more important now than in past since socio-demographic and cultural landscape is rapidly changing. This presents a unique marketing challenge to cater to the highly diversified market. There are number of studies done on consumer behaviour of Functional food: acceptance, determinants, consumption in the last decade but there is a gap in terms of understanding the reason for varied levels of adoption by consumers.

Although Functional foods hold good promise to mitigate diseases and promote good health, strong evidence through publishing of clinical trials and consumer experience reports is required to substantiate claims made by Functional foods. This would in turn help educate the consumers and increase Functional food literacy - specific dietary foods for ailments or to maintain good health and right combination of food as well as portion. By promoting consumer research, food literacy, communication of benefits of Functional food, a dynamic change in the health and well-being structure of the country can be expected, just as Japan was able to achieve. With conscious diet and lifestyle change, the country should be able to reduce its incidence of Cardiovascular diseases supporting the goal of Government to preserve societal health and community well-being.

References

Ahirwar, R., & Mondal, P. R. (2019). Prevalence of obesity in India: A systematic review. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, *13*(1), 318–321. https://doi.org/10.1016/j.dsx.2018.08.032

Arai, S. (1996). Studies on Functional Foods in Japan—State of the Art. *Bioscience, Biotechnology, and Biochemistry*, *60*(1), 9–15. https://doi.org/10.1271/bbb.60.9

Deepa, M., Bhansali, A., Anjana, R., Pradeepa, R., Joshi, S., Joshi, P., Dhandhania, V., Rao, P., Subashini, R., Unnikrishnan, R., Shukla, D., Madhu, S., Das, A., Mohan, V., & Kaur, T. (2014). Knowledge and awareness of diabetes in urban and rural India: The Indian Council of Medical Research India Diabetes Study (Phase I): Indian Council of Medical Research India Diabetes 4. *Indian Journal of Endocrinology and Metabolism*, *18*(3), 379. https://doi.org/10.4103/2230-8210.131191

Functional Foods: Components, health benefits, challenges, and major projects. (2021). *DRC Sustainable Future: Journal of Environment, Agriculture, and Energy*, 61–72. https://doi.org/10.37281/DRCSF/2.1.7

Hasler, C. M. (2002). Functional Foods: Benefits, Concerns and Challenges—A Position Paper from the American Council on Science and Health. *The Journal of Nutrition*, *132*(12), 3772–3781. https://doi.org/10.1093/jn/132.12.3772

Henry, C. J. (2010). Functional foods. *European Journal of Clinical Nutrition*, *64*(7), 657–659. https://doi.org/10.1038/ejcn.2010.101

Huffman, M. D., Prabhakaran, D., Osmond, C., Fall, C. H. D., Tandon, N., Lakshmy, R., Ramji, S., Biswas, S. K. D., Reddy, K. S., Bhargava, S. K., & Sachdev, H. S. (2011). *Incidence of Cardiovascular Risk Factors in an Indian Urban Cohort*. *57*(17), 10.

Martirosyan, D. M., & Singh, J. (n.d.). *A new definition of functional food by FFC: what makes a new definition unique?* 15.

Nojiri, S., & Daida, H. (2017). Atherosclerotic Cardiovascular Risk in Japan. *Japanese Clinical Medicine*, *8*, 117906601771271. https://doi.org/10.1177/1179066017712713

Omran, A. R. (2005). The Epidemiologic Transition: A Theory of the Epidemiology of Population Change. *Blackwell Publishing, 83, No. 4,*.

Roberfroid, M. B. (2002). Global view on functional foods: European perspectives. *British Journal of Nutrition*, *88*(S2), S133–S138. https://doi.org/10.1079/BJN2002677

Roth, G. A. (n.d.). *The Global Burden of Cardiovascular Diseases and Risks*. 2.

Shahidi, F. (2006). Functional Foods: Their Role in Health Promotion and Disease Prevention. *Journal of Food Science*, *69*(5), R146–R149. https://doi.org/10.1111/j.1365-2621.2004.tb10727.x

Sharma, M., & Garg, S. (2013). *Functional Foods: Marketing 'Health' To Modern India*. *2*(5), 20.

Tsugane, S. (2021). Why has Japan become the world's most long-lived country: Insights from a food and nutrition perspective. *European Journal of Clinical Nutrition*, *75*(6), 921–928. https://doi.org/10.1038/s41430-020-0677-5

Verbeke, W. (2005). Consumer acceptance of functional foods: Socio-demographic, cognitive and attitudinal determinants. *Food Quality and Preference*, *16*(1), 45–57. https://doi.org/10.1016/j.foodqual.2004.01.001