

Phytonutrient Gap- Indian Experience



COMMERCE

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ABSTRACT

India is one of the largest producers of fruits and vegetables in the world. It is also one of the largest consumer markets, with consumption around 59% of GDP, with food and grocery having the largest share in the consumption basket. However, a number of studies show that Indian consumers do not consume the WHO recommended quantity (a daily intake of at least 400 grams) of fruits and vegetables which helps to prevent diet-related chronic diseases and micronutrient deficiencies.

The study examines the consumption of fruits and vegetables patterns for Indian consumers, identifies the shortfall in consumptions, examines the reasons for such shortfall and makes recommendations. The study is based on a primary survey of consumers and analysis of secondary data.

Introduction

It is scientifically established that fruits and vegetables are essential sources of phytonutrients, which promote a range of health benefits. A pioneering study by the World Health Organization (WHO) on diet, nutrition and prevention of chronic diseases has recommended that a daily intake of at least 400 grams of fruits and vegetables helps to prevent diet-related chronic diseases and micronutrient deficiencies.

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Literature Review

India is one of the fastest growing economies in the world. With a middle-class population of about 23.6 million people, India ranks 8th among 215 countries in terms of the number of middle-class adults in 2015.

Large consumption base, increasing share of fruits and vegetables in consumption basket. The World Bank estimates that 59% of the Indian GDP was consumed in 2013. Food and groceries constitute a substantial part of India's consumption basket. Out of the total private final consumption expenditure, about 28% was on food alone and around 30% on food and beverage combined in 2013-14. The composition of the food basket is likely to change from cereals and pulses to fruits, vegetables, milk and milk products, and meat.

In spite of positive developments, a number of studies show that Indians are falling short of their calorie intake or the recommended nutritional requirements. A survey conducted by National Sample Survey Organisation on the Nutritional Intake in India (2011-12) found that since the year 2000, there has been a sharp decline in calorie intake in both urban and rural India resulting in low nutritional levels. It was further found that in India more than 50% of the calories and nutrition are derived from cereals rather than non cereal products such as fruits and vegetables. On an average, fruits and vegetables contributed to only around 9% of the calorie intake. Another WHO study was conducted in 2003 of a sample of 10750 households from six states Assam, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal shows that 78% of respondents reported insufficient intake of fruits and vegetables. The Integrated Disease Surveillance Project of the Ministry of Health and Family Welfare selected a sample of 5000 households from

7 states (Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Tamil Nadu and Uttarakhand) between 2007-2008 and found that a high proportion of population takes inadequate amounts of fruits and vegetables. The broad conclusion from these surveys is that there is lack of adequate intake of fruits and vegetables in India.

Given this background, it is important to understand the paradox –the shortfall in nutrients and consumption of fruits and vegetables despite a rise in incomes. The key issue is how can the shortfall be addressed so that the health of the nation is not compromised. This requires an analysis of both demand and supply side factors.

Objectives of the Study

To understand the actual consumption patterns of fruits and vegetables in India and compare this to the World Health Organization (WHO) recommended quantity for an adult.

To find out reasons for the shortfall and make recommendations.

Advantage India

India is one of the largest producers and a net importer of many fruits and vegetables. It is likely that with liberalisation, globalisation and easing of trade restrictions, different types of fresh and processed food will be more readily available in the country. Today, fruits and vegetables are available in different forms (such as fresh, frozen, juices and chopped), through multiple retail channels and in different formats (such as branded, non-branded, organic and inorganic).

The actual consumption of fruits and vegetables depends on various supply and demand factors.

Production

During 2013-14, India produced 88.98 million metric tonnes of fruits and 162.89 million metric tonnes of vegetables. The year-on-year productivity of fruits and vegetables has remained more or less constant since the year 2004-05. Moreover, there are variations in the production of fruits and vegetables across states.

Trade

India is a net importer of fruits and vegetables. Trade is rising and it is likely to grow further. At present, India has high tariffs on fruits and vegetables; however, as it has entered into trade agreements, tariffs on some product categories have been liberalised under these agreements. Therefore, it is likely that India's imports may rise in these categories and the trade balance will worsen.

Consumption

Between 1993 and 2011, the proportion of household expenditure on total food items has decreased in both rural and urban households. However, the proportion of income spent on fruits and vegetables has not changed much over time. On an average, the Indian diet pattern is skewed towards cereals, and fruits and vegetables account for only 9% of the total calorie intake.

Prices

Inflation in prices of food items has played a major role in raising household expenditure. Further, there are inter-state differences in the prices of fruits and vegetables in India—this often affects the consumption pattern.

Survey Results

The survey covered 500 individuals drawn from households across Delhi and NCR. The sample consisted of individuals from upper and middle income groups. Interviews were conducted using a semi-structured questionnaire.

Fruits and Vegetables Intake

The average intake of fruits and vegetables is 3.5 servings per day, which comprises 1.5 servings of fruits and 2 servings of vegetables. The average intake of the younger generation is even lower—for 18-25 years it is 2.97 servings per day and for 18-35 years it is 3.3 servings per day. The average intake among the students is abysmally low at 2.94 servings per day.

Availability plays an important role in consumption. Further, there are limited options in the processed food category and prices and taxes are high—all these result in low consumption.

Awareness about WHO recommendation

Lifestyle is the topmost reason provided by the survey respondents (51%) followed by seasonal availability (26%) and high cost (21%) for their inability to meet the WHO recommendation.

Around 50% of those aware of the WHO recommendations have educational qualification of post graduate and above. Almost 95% of the respondents are aware of the benefits of fruits and vegetables in general. Print and electronic media are the key sources of information.

Indian consumers across all income groups are consuming less than the recommended quantity of fruits and vegetables. The level of awareness about the WHO recommendation is low-89% of the respondents are not aware.

Buying Preferences for Fruits and Vegetables

A majority of Indian consumers (76%) are willing to purchase organic products as they consider them to be of better quality and free of pesticides and chemicals. However, only 29% of the respondents actually buy organic products.

The gap between the willingness to buy and actual purchase is due to non-availability of organic fruits and vegetables. A majority (56%) of the respondents are willing to purchase non-branded fruits and vegetables as they feel that branded products are over-priced, contain preservatives and are not always fresh and chemical free.

Use of Nutritional Supplements

Use of nutritional supplements is quite low in India—only 21% of the respondents consume nutritional supplements.

Other Survey Findings

Indian consumers prefer to buy fruits and vegetables from the local markets (53%) and push carts (19%). Consumers are well aware of the presence of adulterants in fruits and vegetables (97%). A majority of the respondents clean and consume the

fruits and vegetables (53%), there are some who buy them from selected outlets only (39%) while others buy only organic products (29%). Very few consumers are aware of the regulations in India. Around 30% are aware of the Consumer Protection Act, 1986 while 34% are aware of the Food Safety and Standards Act, 2006.

Only 12% of the respondents in the age group 18-25 years have health supplements and only 9% of the students have them. Intake of supplements is higher among vegetarians—27% of vegetarians consume them, while only 17% of the non-vegetarians do. Respondents prefer to buy health supplements from general stores (79%) and pharmacies (67%).

Barriers in the Supply Chain and their Impact on Consumption

High prices and seasonality of production are crucial barriers affecting consumption. Some states have not adopted the model APMC Act and, therefore, they do not allow direct sourcing—leading to a fragmented supply chain. There are inter-state barriers in the movement of fruits and vegetables—waiting at check-posts leads to delay and wastages.

India imposes high import tariffs on fruits and vegetables. In 2015-16, fruits and vegetables like broccoli, carrots, bananas, pineapples, papaya, watermelon and green chillies faced 30% import tariffs while garlic faced a tariff of 100%. In years of drought and crop failure, imports increase.

In India, the food and grocery sector is largely non-corporate and there are restrictions on FDI in multi-brand retail. Further, some states do not allow direct sourcing. As a result, global multi-nationals have not shown interest in investing in the food supply chain.

High taxes on processed fruits and vegetables, and variations in taxes across states discourage processing. Low awareness among Indian consumers about the benefits of fruits and vegetables. Food Safety and Standards Authority of India does not cover traceability of farmers and there is high incidence of pesticide residue.

Consumer protection regulations are outdated and consumer courts take time to evaluate cases and pass judgement; consumer fora are not strong enough to raise their voices against quality issues.

Conclusions and Recommendations

While consumption decisions are personal, the government, through appropriate policy can support the desired consumption of fruits and vegetables which, in turn, will help build a healthy nation. Most importantly, government policy has to protect the interests of consumers and provide them with a broader choice in terms of product variety and retail formats.

Ensure traceability back to the farm to ensure maintenance of hygiene and quality standards. Work with farmers, support their training and share knowledge. Cover both store and non-store retail formats under consumer protection regulations. Generate awareness among consumers, especially students and the younger cohort regarding the recommended intake of fruits and vegetables.

Ministry of Food Processing Industries should generate awareness about the benefits of processed fruits and vegetables. Improve availability of organic products. Restrictions on contract farming should be addressed to attract investments at the farm level. Private investments should be monitored to safeguard the interests of farmers, producers and consumers. Government may explore the possibility of liberalising foreign direct invest-

ment in multi-brand retail and ease conditions on foreign investors to improve access to a variety of products. Identify gaps in food supply chain infrastructure and focus policy on the creation of the right infrastructure.

References

1. Beecher ,G.R.(1999). "Phytonutrients Role in Metabolism :Effects on Resistance to Degenerative Processes" Nutrition Review 57(9) :S3-S6, September.
2. Liu, R.H.(2013). "Health promoting components of Fruits And Vegetables in the diet" Advances in Nutrition 4(3):384S-92S.
3. National Sample Survey Organisation(NSSO) (2014).Household Consumer Expenditure, NSS 50th-68th Round Reports. New Delhi: Ministry Of Statistics And Programme Implementation.
4. Nutrilite Health Institute (2015).The Shortfall Of Fruits And Vegetable And Phytonutrient Consumption in Asia with a Focus On India . California,US:Center For Optimal Health.