



A STUDY ON CONSUMERS' PERCEPTIONS ABOUT FOOD SUPPLEMENTS WITH SPECIAL REFERENCE TO SILIGURI IN W.B.

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Abstract

Food safety issues have an ever-increasing profile on a global basis. Consumer awareness and interest in food safety significantly matters in assuring good health and safety of domestic population. An estimated 29,000 varieties of dietary supplements are in the market with 1,000 new products being introduced each year. More than 100 million Indians use dietary supplements and spent \$12.7 billion on them in 2012. Around 26% of GDP in India come from food and agriculture and according to FICCI report on nutraceuticals the expected contribution of the nutraceutical market to Gross Domestic Product (GDP) of India will be 1.2% by 2015. The key objective of the study is to know whether food supplements are preferred over natural food resources and the awareness level of people about food supplements. Research have found that many of the lifestyle characteristics of supplement users are health related, such as non smoking, being physically active, having an optimal body weight and consuming alcohol in moderation. Most users indicated their reason for consuming dietary supplements as supplementing their food consumption, and were possibly intentionally compensating for their behavior. Proper advertisement for the people awareness about advantages of Food Supplements is highly recommended as the untapped market, AMWAY India Enterprise being the market leader, in this sector is significant.

Key Words: Food Safety, Food Supplements, Lifestyle Characteristics, Nutraceutical Market, Awareness Level.

Introduction

Food Safety issues have been the most wanted intervention in the field of Nutrition all over the world. Food Supplements are concentrated sources of nutrients or other substances with a nutritional effect whose purpose is to supplement the normal diet. Food Supplementary, better known as Dietary Supplements, are supplementary to natural foods and not medicines and includes vitamins, minerals, fibre, fatty acids or amino acids among other substances.

A dietary supplement is a product taken by mouth that contains a dietary ingredient intended to supplement the diet. Normally, we should be able to get all the nutrients we need from a balanced diet but this is not possible due to rise in many preserved, junk and provided additives. However, taking supplements provide additional nutrients when our diet is lacking or when certain health conditions cause us to develop an insufficiency or deficiency. Multivitamin Supplements provide all basic micronutrient our body needs i.e. vitamins and minerals. These come in different forms such as tablets, capsules, soft gels, gel caps, liquid and powder. Though there has been a remarkable improvement in the quality and quantity of food consumed in the developing countries, and the nutritional status of the children below five years has increased significantly, there are still problems posed to nutrition improvement, and food safety measures are extremely important area of concern. Consumer awareness and interest in food safety significantly matters in assuring good health and safety of domestic population. An estimated 29,000 varieties of dietary supplements are in the market with 1,000 new products being introduced each year. Dietary supplements are sold in a variety of retail establishments because they are not considered drugs under federal law, no prescription is required to purchase or dispense dietary supplements in India and they can be sold in health clubs, supermarkets, pharmacies, health food stores, and other retail establishments. A dietary supplement can be made from animal parts, algae, seafood, yeasts, fungus, and many other food substances or extracts. They include powdered amino acids, enzymes, energy bars, and liquid food supplements. Some dietary supplements are formulated under careful conditions in clean, controlled laboratories and labeled accurately. Others are made less carefully, and have been found to contain none of the substances listed on their labels. And many supplements contain other substances that are not listed on their labels – fillers, different herbs, or actual drugs that are known to be able to cause harm.

Thousands of dietary supplements are also available for purchase via the Internet. The online purchase of dietary supplements is particularly attractive to minors. A 2004 report estimated that 18 million children between the ages of 12-17 years have used the Internet. Data from 2003 indicate that approximately 25 percent of teenagers using the Internet have searched for information about diet, exercise and general health. More than 100 million Indians use dietary supplements and spent \$12.7 billion on them in 2012. Data on the consumption of dietary supplements vary widely. Other studies estimate that at least 30 percent of Indians use vitamin and mineral supplements regularly and approximately 33 percent use at least one non-vitamin and/or non-mineral supplement regularly. Among cancer patients, the use of “unconventional” medicines, including herbal therapies, has been reported to be as low as 5 percent and as high as 60 percent. Chronic disease is estimated to account for 35 million deaths worldwide. Cardiovascular disease and cancer comprise a major proportion of chronic diseases in both



developed and developing countries. Other than cardiovascular disease and cancer, obesity-related diseases such as type2 diabetes, end-stage renal disease, and osteoarthritis are also becoming significant public health problems. Many of these chronic diseases share common risk factors and underlying pathologic mechanisms that may be modified by nutrients. Examples include reduction of oxidative damage by antioxidants, Deoxyribo-nucleic Acid (DNA) methylation regulated by foliate and Vitamin B, bone metabolism regulated by Vitamin D and Calcium, and Cell differentiation, proliferation, and growth regulated by retinol, Calcium, and Vitamin D. The biological effects of a nutrient are heavily dependent on its bioavailability. Key factors determining the bioavailability of micronutrients are the chemical form in which the nutrient is presented to the intestinal absorptive surface, the presence of other competing chemicals in the intestinal lumen, the concentration of food constituents that bind to the nutrient and make it unavailable for absorption, intestinal transit time, and enzyme activity.

India is one of the countries where the market for nutritional and dietary supplements growing enormously. Nutritional and dietary supplements are sold in India under the name of Fast Moving Healthcare Goods (FMHG). Of course India has passed Food Safety and Standard Act in a year 2006 – a modern integrated food law to serve as a single reference point in relation to regulation of food products including nutritional dietary supplements and functional food. The Food Safety and Standard Act is still needed to match infrastructure and stewardship match with international standards of U.S. and Europe. But till now India does not have the strict and clear cut guidelines related to this fast growing field. Many agencies viz. Health Food and Dietary Supplements Association (HADSA), National Institute of Nutrition (NIN), Food and Drug Toxicology Research Centre (FDTRC), National Nutrition Monitoring Bureau (NNMB) are working to set up guidelines for this pharmacy field. Health Foods and Dietary Supplements Association (HADSA) was formerly known as Indian Health Foods and Dietary Supplements Association (INHADSA).

A nutrient may affect not only the absorption of other nutrients, but also the transport, tissue uptake, functions metabolism of other nutrients. Hence, concurrent ingestion of several nutrients may result in synergistic, antagonistic, or threshold effects as compared to a single nutrient. The efficacy of a single nutrient or multiple nutrients should be considered separately unless no interactive or threshold effects can be found. The United States Food and Nutrition Board have established the tolerable Upper intake Level (ULs) for several nutrients. By definition, UL is the highest level of daily nutrient intake that is likely to pose no risk of adverse health effects to almost all individuals in the general population. Based on data from 2008, the Center for Disease Control (CDC) released a report that provided a more comprehensive review of dietary supplement used in the United States. The report included a descriptive chart on the use of non-vitamin, non-mineral natural products and listed Echinacea, ginseng, ginkgo, garlic, and glucosamine as the five most frequently used dietary supplements and now we find these natural lists given in food supplements also in India by foreign company AMWAY which in India is now known as Amway India Enterprise named Nutrilite Triple guard Echinacea , Nutrilite Siberian Ginseng with Gingko Biloba, Nutrilite Garlic Heart Care and Nutrilite Glucosamine HCL with Boswellia respectively which are the finest extracts. Some Indian populations practice Ayurveda, a traditional medicine system with “a rich tradition in plant pharmacotherapy.” Consumers also use dietary supplements in their attempts to ensure general health and nutrition, improve athletic performance, enhance personal appearance, and to avoid the harmful or unpleasant side effects associated with pharmaceuticals and other forms of conventional medical treatment. Herbal remedies, in particular, are taken for reasons other than nutrition. Some consumers will use supplements to treat begin self-limited conditions (e.g., Echinacea for the common cold) while others will use them in an attempt to manage the symptoms of serious or chronic illnesses (e.g., saw palmetto for benign prostatic hyperplasia or glucosamine for arthritis). Dietary supplements, have been shown to contribute to a large proportion of the micronutrient intake of Indians. Supplement users have been characterised as having a positive attitude towards their health. They might therefore intentionally seek to compensate for unhealthy behaviours by taking dietary supplements, which have been seen as “insurance” for the promotion of optimal nutrition and the prevention of illness. The reason for this is that supplement users have been found to have higher dietary nutrient intakes than non-users of supplements.

Importance of the Study

According to Ernst & Young report Indian nutraceutical market in 2008 was estimated 10 billion. Of this functional food market, dietary supplement market and functional beverages market is estimated 54%, 32% and 14% respectively. In 2013 the global nutraceutical market was expected to show growth rate of 7% Compound Annual Growth Rate (CAGR) and in India it was expected to show 11% CAGR in dietary supplement market. A report published by Federation of Indian Chambers of Commerce and Industry (FICCI) on nutraceuticals it was expected that among the nutraceutical market functional food functional beverages and dietary supplement market were predicted to be of US \$ 57, 49 and 71 billion respectively in 2013. But in India the functional food market is largest followed by dietary supplement market but the functional beverage market is totally empty. According to this report the expected contribution of the nutraceutical market to Gross Domestic Product (GDP) of India will be 1.2% by 2015. Today Indian food industry is in unique position with an



impact of Green Revolution in the country. Around 26% of GDP in India come from food and agriculture. The market for food supplements and functional foods are rapidly expanding throughout the world. However, the market trend in India, European country and USA are totally different. Siliguri is surrounded by different state and international border. It is the gateway of Assam, Doars and Hilly Region of West Bengal and Sikkim. It is also a gateway of Nepal and Bhutan by road. Geographically and strategically Siliguri is very important. It is also a large economic hub in North Bengal. Most of the population here consume the supplement for their health and supplements have played a greater role in changing the healthy lifestyles of the people consuming it.

Review of Literature

The studies on food supplements are of great interest to scholars at present times. There are many studies on supplements and health concerns reported so far. There are country specific studies, region wise studies, and economic studies on much type of supplements in India. Many of these studies tried to measure the interest of people and their behavioural impact on consumption of supplement and such nutrients. There are various nutritional studies which in general explain the movement and marketing of supplements over a period of time. In this study a review is made relating to various aspects of supplements, its uses and its impacts in the local market, economic support to buy, male's and female's and family's acceptance, availability, causes and effects, income disparities, consumer perception, analysis of acceptance of people in India etc. The literature under consideration here is grouped under a single heading –food supplementary related studies.

Dietary Supplement Health and Education Act (DSHEA) defined dietary supplements as a category of food, which put them under different regulations than drugs. They are considered safe until proven otherwise. The DSHEA says that dietary supplements cannot contain anything that may have “a significant or unreasonable risk of illness or injury” when the supplement is used as directed on the label, or with normal use if there are no directions on the label.

DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS) guidelines require that dietary supplements follow standards called GOOD MANUFACTURING PRACTICES (GMPs). This means that dietary supplements must (a) be produced in a quality manner, (b) not contain any contaminants or impurities, (c) be labeled with the ingredients that are actually in the product.

Dewey and Adu-Afarwuah (2008) found in a systematic review of complementary feeding that the risk for anaemia and iron deficiency was lower in children who received Micronutrient Powder (MNP), as compared to the controls [anaemia OR: 0.54 (95% CI: 0.46-0.64); and that of iron deficiency was RR: 0.44 (95% CI: 0.22-0.86) for those using MNP compared with controls].

De-Regil's Cochrane review (2011) found that MNP use was associated with a 31% reduction in anaemia (RR 0.69, 95% CI 0.60-0.78) and a 51% reduction in iron deficiency (RR 0.49, 95% CI 0.35-0.67). It was noted that MNP was highly acceptable to mothers and children, there were fewer side effects with MNP than with iron drops, and the efficacy was not associated with the duration of the interventions (2, 6 or 12 months).

The FICCI stated that nutrition related risk factors contribute to more than 40% deaths in the developing countries including India. Around one fifth of the Indian population lacks the purchasing power to consume a diet which is rich in calories on a day to day life. India is one of the largest producers of the food products but the people of India are lacking nutrient uptake which are the causes of malnutrition.

Objectives of the Study

The key objective of the study is to know whether food supplements are preferred over natural food resources and the awareness level of people about food supplements. However, the other objectives of the study include whether it is considered as lifestyle product or it has become a compulsion now for a body to take supplement, whether food supplements are taken as a medicine or as a whole food by consumers and whether natural sources are insufficient to bridge nutritional gap.

Research Methodology

To achieve objectives the research is based on both, primary and secondary data and more descriptive and analytical in nature. For the purpose of survey; information was gathered from different areas of Siliguri specially Champasari, Pradhan nagar and Darjeeling more and questionnaire were designed to gather the information about the awareness of people of Siliguri about their health and of supplements available in and around Siliguri. All sampling units were chosen randomly to collect data from 100 respondents. In case of non cooperation, the next respondent for collecting samples was searched. All



the primary information from the sampling unit were gathered personally through questionnaire using scheduling technique and secondary data was collected from internet and books.

Findings

Results from this systematic review indicate a relative paucity of data that specifically address the efficacy of multivitamin/mineral supplement use in the prevention of many diseases in the general population of the Siliguri. Health food stores predominantly sell dietary supplements, grocery products and other prepared foods associated with healthy eating. Research have found that many of the lifestyle characteristics of supplement users are health related, such as non smoking, being physically active, having an optimal body weight and consuming alcohol in moderation. Majority of the customers visiting the health food stores in Siliguri were supplement users and could thus be considered health conscious. An overwhelming majority regularly used supplements, with intake ranging from one to four products. The most frequently used were vitamins, followed by minerals and herb-containing supplements. Most users indicated their reason for consuming dietary supplements as supplementing their food consumption, and were possibly intentionally compensating for their behavior. Although no significant differences were found between the supplement users and non-users regarding the awareness of the knowledge of the recommended fruit and vegetable intake servings and their fruit and vegetable consumption, supplement users seemed to be more aware and consumed more fruit and vegetables than non-users of supplements, which could also support the “inverse supplement hypothesis”. Thus awareness needs to be raised, as people are not aware that they should eat five servings of fruit and vegetables each day for good health. No significant differences were found between the different supplement user groups regarding their awareness of the concept and knowledge of the recommended vegetable intake servings and their fruit and vegetable consumption.

Some of the important findings state that

- People were interested to get knowledge about food supplements and were aware of present health challenges they face.
- The maximum respondents perceive food supplements for a medicinal purpose and maximum people listen and consume from a common people.
- Some people do not consume because of the high price and less knowledge.
- The consumers of supplements were satisfied and the maximum people found a better improvement in health.
- Maximum found food supplements as a balanced diet and most of the respondents found the deficiency of vitamins and minerals were overcome.
- Most of the respondent said that rich people can afford the supplements and maximum of the children in a family are the receiver of supplements.

Suggestions

The study is not exhaustive as the sample size is limited. However, based on the findings the followings may be suggested:

- Proper advertisement for the people about Food Supplements should be enhanced.
- People must be given maximum of knowledge about its uses and doses.
- Proper investigation must be done before anyone buy or use any Food Supplements.
- There are many resources in libraries and online, past information that comes from the makers of the products, which can be biased or wrong and also the materials from reliable third parties, such as researchers or government agencies. This type of researches must be promoted by the prescriber of Supplements.
- The trainers of Supplements should be clear of things like products that claim to be “miracle cures,” “breakthroughs,” or “new discoveries,” as well as those that claim to have benefits but no side effects, or are based on a “secret ingredient” or method must be avoided. Such claims are almost always fraudulent, and the product may contain harmful substances, drugs, or contaminants.
- Informers of Supplements must have knowledge about the mixtures of many different Supplements and try avoid as the more ingredients, the greater the chances of harmful effects. Mixtures also make it harder to know which substance is causing any side effects.
- The dosage limits on the label must be taken. Overdoses can be deadly. People should not take a Dietary Supplement for any longer than recommended.
- People should never give a Supplement to a baby or a child under the age of 18 without talking to the child’s doctor. A child processes nutrients and drugs differently from an adult, and the effects of many products in children are not known.
- Products that claim to treat a wide variety of unrelated illnesses must be avoided. If a Supplement claims that it can diagnose, treat, cure, or prevent disease, such as “cancer,” or “stops tumour growth,” the product is being sold illegally as a drug.



- The trainings nearby for all this suggestions must be promoted so that people get aware of these kinds of certain effects of Supplements.
- Government should also promote the natural Supplements for healthier life.

Conclusion

The public media were the most frequently indicated source of nutrition information among the health food store customers. The media could be used to raise awareness of the recommended fruit and vegetable intake servings and, with time and effort, possibly help to increase fruit and vegetable consumption as awareness and knowledge increase. It is important to make people aware of their low consumption of fruit and vegetables as the first step to promoting higher consumption. Many company's supplements may have gained over competitors such as AMWAY India Enterprise, DABUR India Ltd., EMAMI Ltd., HERBALLIFE International India Pvt. Ltd., HIMALAYA Drug Co., RANBAXY Laboratories Ltd., and many accordingly they are TOP 6 supplementary companies which are perceived to be more expensive, a perception that hasn't changed over time. The idea is to address all age groups that there are healthy products to live a healthy life. So far though, GlaxoSmithKline Consumer Healthcare (GSKCH) has succeeded in segmenting the customer base by catering for specific needs of women at the same time cashing it on the increasing population of children. Generalization of the results is limited as the focus was on individuals visiting health food stores only. However, a broader survey covering the general public may be recommended in this regard.

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