



# Scire Science Newsletter

Scire Science Newsletter 1(1), 2017

An Open Access, Online Newsletter Available at <http://www.scire.co.in/newsletter.php>

2017, Lakshmi and Hanumantharaju

DOI: <https://doi.org/10.25129/SSNL2017.156>

## Processed food and its nutritional value

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Available online: October 2017

### Introduction

Nutrition and nutritional factors are widely considered to be crucial for health and well-being of the humans. The well documented evidences from epidemiological studies indicate several degenerative diseases, cardiovascular diseases and some types of cancers are linked with diet and nutrition uptake and its regulations. All these diet-related problems are likely to change eating habits, processing technologies, and products. Many beneficial and detrimental health effects of specific nutrients present in foods are well known to us and the total amount of a nutrient may depend upon its “availability” for absorption in the gut is in many cases quite uncertain or varies for the same food depending on the food processing conditions, presence of other components, and so on . It was previously reported that the ingested nutrient fraction used by organism is obviously of major importance and several factors influence its availability like chemical state of the nutrient, its release from the food matrix, possible interactions with other food components, presence of suppressors or cofactors, formation of stable compounds that are slowly metabolized etc. These findings have created a new perspective concerning the potentiality of processed diet in preventing serious diseases in the future and also demonstrated that however in the case of certain nutrients, the state of the matrix of natural foods or the microstructure of processed foods may favour or hinder their nutritional response *in vivo*.

For this the global nutrition rich food demand depends on processed food products because processing is expected to affect content, activity and bioavailability of bioactive compounds. Some examples are preparing space food for consumption under zero gravity jams and jellies made by heat treating fruit pulp and filtrate with sugar so yield semi solid spreads etc. However, the health-promoting capacity of food products strictly depends on their processing history.

### The concept of nutrition transition

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During the evolutionary period diet and nutritional status in humans have undergone a sequence of major shifts in their characteristics that lead to broad food usage patterns and corresponding nutrition-related disease. The concept of the nutrition transition focuses on large shifts in diet and its activity patterns, especially their structure and overall composition. These changes are reflected in nutritional outcomes, such as changes in average stature and body composition. Furthermore, dietary and activity pattern changes are paralleled by major changes in health status and by major demographic and socioeconomic changes

There are marked differences between urban and rural eating patterns; particularly the consumption of food prepared away from home is leading to decline in under nutrition accompanied by a rapid increase in obesity. Other issues includes the metabolic efficiencies that served well in conditions of fetal undernutrition become maladaptive with over nutrition, leading to the development of abnormal lipid profiles, altered glucose and insulin metabolism and obesity.

#### **The issue of better food with rich processed food**

Nutrient required for normal body functioning that either cannot be synthesized by the body is known as essential nutrient and thus must be obtained from a dietary source. Essential nutrients are also defined by the collective physiological evidence for their importance in the human diet. Major groups of essential nutrients in human diet are essential fatty acids, essential amino acids, vitamins and dietary minerals.

All aspects of the production and processing of food have been transformed in the past decades. The availability of fresh and nutrient rich agro foods is a growing problem in many countries and the demand for food is relatively inelastic in manner. These factors have made it necessary to provide new nutritive values to raw agricultural products by its processing and enrichment through available techniques and methods.

Balanced diets throughout the year The UN System High Level Task Force (HLTF) on Global Food Security claims that enabling “all people to secure year round access to the varieties of food required for good nutrition” would be an important means by which hunger and malnutrition could be ended. While already in 1996 the definition of “Food Security” included the concept of seasonality (“at all times”), the UN HLTF emphasised again that national goals for reducing hunger and improving nutrition need to include “ensuring consistent availability and accessibility of sustainably produced, nutritious and safe food in local markets” as also suggested by the World Bank.

#### **Specially formulated foods for treating moderate malnutrition**

Diets based including mainly unprocessed foods do not meet the body requirements of a malnourished child and need to be improved by processing (dehulling, germinating, fermenting), fortification, and adding animal-source foods, e.g., milk, or other specific nutrients. Most

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supplementary feeding programs for moderately malnourished children supplied with foods which have shortcomings, including too many antinutrients, no milk (important for growth), suboptimal micronutrient content, high bulk, and high viscosity. Thus, for feeding young or malnourished children, fortified blended foods needed with more recent improvements. Based on success with ready-to-use therapeutic foods for severe acute malnutrition case treatments, modifying these recipes is also considered. Commodities for reducing child malnutrition should be chosen on the basis of nutritional needs, program circumstances, availability of commodities, and likelihood impact.

### **Future need**

Food is a subject of vital interest to everyone in the world. From the point of view of human health, at present, the most salient division of foods and drinks is in terms of their type, degree and purpose of processing. Three main divisions are specified earlier. For this, most of the dietary advices say to take diets on fresh and minimally processed foods, and on dishes and meals made up from such foods with the addition of refined ingredients extracted from whole foods.

Commonly consumed foods with low nutrient density (of protein or vitamins, for instance) or high nutrient density (of saturated fat or sodium, for instance), as well as with extreme energy densities, unbalances the diets and cause either nutritional deficiencies or chronic diseases or both. Hence it is necessary to improve nutritional quality of any raw food to meet the food security challenges following points could be helpful for food processing industry

### **Conclusion**

Nutrition rich food, its availability and food safety are the areas growing worldwide concern on account of their direct bearing on human health. The global food demand depends on processed food products because processing is expected to affect content, activity and bioavailability of nutrients. A few Current examples of processed foods discussed in this review have shown the capability of the food processing in changing the nutritive status of the food. However, the health-promoting capacity of food products strictly depends on their processing history. Traditional technologies such as the use of antimicrobials and thermal processing are efficient in increasing the value of nutrition up to an extent besides the availability of some methods which maintain the level of bioactivity in foods, but they may not be the most effective at improving food safety, to retain the food structure and properties of the ingredients especially in maintaining the food molecular structure.

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