Available online @ www.selptrust.org
SELP Journal of Social Science
ISSN : 0975-9999 (P) 2349-1655 (O)
Impact Factor : 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume. IX, Issue 37 - April 2018
UGC Approved Journal (46622), © Author

A STUDY ON IMPACT OF FOOD ADULTERATION WITH SPECIAL REFERENCE TO SOUTHERN TAMILNADU

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Abstract

Food is one of the basic necessities for sustenance of life.It should be pure, fresh and healthy diet is most essential for the health of the people, nutritious and free from any type of adulteration for proper maintenance of human health. It is no wonder to say that community health is national wealth. But Adulteration has taken away the joy of life. Food adulteration is the process by which the quality or the nature of a given substance is reduced through the addition of a foreign or an inferior substance and the removal of a vital element. It's main aim to increase the quantity and make more profit. The Food and Safety Standards Authority of India (FSSAI) is says about the food adulteration is addition or subtraction of any substance to or from food, so that the natural composition and quality of food substance is affected. In India normally the contamination/adulteration in food is done either for financial gain or due to carelessness and lack in proper hygienic condition of processing, storing, transportation and marketing. This paper focuses to study about the impact of food adulteration and prevention measures for detection of adulteration in food items.

Keywords: Adulteration, Substance, Food and Safety Standards Authority of India, Adulterants, FAOs.

Inroduction

Food is an essential source of power. Food is much more than a substance supplying nutrients for health. Food is a symbol of hospitality and friendship throughout the world. Food is a status symbol. It is an outlet of emotion. Food is a source of security for people to feel reasonably secure when they have enough food stored up to take care of them during periods of scarcity. Familiar foods give a sense of security when one has to eat away from home.

The word adulteration is not to be found in the Food Safety and Standards Act. The Act talks about safe foods, sub-standard and unsafe foods. Adulteration has taken on a new avatar. It now comes in the form of non-permitted colours being added to snacks like bhajji and pakoda sold on the roadsides, Maida bleached with chemicals, oil-soluble red colour added to chilli powder and cheap palm oil mixed with other cooking oils to reduce the price and the Packing hot food items in plastic bags is bad for health as the heat causes the plastic to react. Everything from oil to water to

pulses that we buy comes in plastic packs. But since nobody has time for anything, people don't even bother to carry their own bags to department stores to avoid plastic bags. Mixing of asafoetida powder with powdered rice, pepper powder with wheat flour, sunflower oil with cheap soya oil, badam milk with wheat flour and mustard seeds with seeds of similar shape are some of the common practices of adulteration.

Tamilnadu

In Tamilnadu Just 16% food adulterators were convicted in the state over the past two years even though there has been a rise in the number of complaints of contaminated food in the market. Also 40 per cent of food items tested by government labs in the state in 2013-14 were either adulterated or "misbranded", Food Safety and Standards Authority of India (FSSAI) statistics said. Interestingly, the rate of adulteration in Tamil Nadu is two times higher than that of the national average of 19 per cent, according to information availed from FSSAI.

Adulterants - Types

a) Intentional
b) Incidental

a) Intentional

Intentional adulterants are those substances that are added as a deliberate act on the part of the adulterer with the intention to increase the margin of profit.

Eg. Sand, marble chips, stones, mud, chalk powder, water, dyes, etc., these adulterants cause harmful effects on the body.

b) Incidental

These adulterants are found in food substances due to ignorance, negligence or lack of proper facilities. It is not a wilful act on the part of the adulterer.

Eg. Pesticides, droppings of rodents, larvae in food.

Samples of Adulteration in Tamilnadu

The issue of adulteration is increasingly threatening a whole range of food products. They range from 'butter biscuits' allegedly made with cheap animal fat in north Chennai to even 'natural' food products. A chunk of the green leafy vegetables sold in Chennai is found to contain toxic metals that have the potential to harm various organs of the body.

FOOD ITEM	ADULTERANT
Ghee/Butter	Vanaspati
Milk	Water
Ice cream	Metanil yellow
Dals	Kesari dal
Tea leaves	Black/Bengal gram dal husk with colour
Wheat	Ergot (poisonous fungus)
Sugar	Chalk powder
Turmeric	Coloured saw dust/Metanil yellow
Chilly powder	Stones
Jaggery powder	Chalk powder
Common salt	White powdered stone, chalk
Mustard seeds	Argemone seeds
Honey	Molasses
Cinnamon	Cassia bark
Coffee	Chicory
Pepper	Papaya Seeds

A variety of green vegetables is grown in marshy areas on Chennai's outskirts. These areas have high levels of industrial pollutants, including heavy metals, which are absorbed by the plants. The harvested leaves find their way to the market at a cheap rate.

The term 'plastic rice' came into being after a scandal was exposed in China in 2010, in which pellets were made by mixing sweet potato powder with poor quality rice. "A resin was found to have been used for the bonding. But this was banned. But in India, although there have been several complaints and allegations of rice being mixed with plastic, tests conducted on so-called 'plastic rice' have conclusively proved that there had been no plastic element in such rice samples.

Recently chemicals are used for milk also the district administrations stepped in at places such as Madurai and Coimbatore and tested milk samples submitted by the residents. In Madurai, the electronic milk adulteration tests showed that out of 217 samples taken on three different dates in the city and two other locations in the suburbs, 25 samples were found to be of sub-standard quality, while another was found to be unsafe for consumption.

Major Impacts of Food Adulteration

Impacts of adulteration the problems of adulteration makes the food items used in our daily life unsafe and unhygienic for use due to poor handling. In the past few decades,

adulteration of food has become one of the serious problems and consumption of adulterated food causes serious diseases like cancer, diarrhoea, asthma, ulcers. In general, adulteration of food items has a very serious impact on producers/farmers, processors or manufacturers/enterprises, consumers and government.

Impacts on Enterprises

The Enterprises are wedged by a loss of consumer assurance in their products, recalls and destruction of contaminated products, complaint expenses and increases of insurance premiums and costs related to equipment replacement or cleaning. A supplier's fault is inevitably reported in the mass media, casting doubt on that company's reputation. This affects not only the sales of that particular product, but also the sales of many other products supplied by the company's warehouse or retailers and even the products can be banned/discarded automatically. The effects of such bans on the food production industry are multiple, profound, and far-reaching.

A producer that depends on a banned imported foodstuff not only suffers economic loss to the impacted product but also faces lost sales caused by loss of public confidence. The resulting brand damage can be devastating, and recovery can require significant time and expense when consumers have moved on to other suppliers' products. People have lost their trust in the products. For example, about 40 to 60% of consumers either ceased or were unwilling to purchase domestic milk products, whereas those who purchased imported milk powder increased from 34% to 47% in China.

Impacts on Farmers/Producers

Adulteration not only has an effect on big enterprises but also farmers or producers (like dairy, honey, coffee, wheat, etc) can be affected by the weakest link in the industry chain. Many farmers suffered massive losses, cost increases due to feed costs, milk cow shortage caused by mass sales or slaughter during the crisis, for example in the case of China dairy Scandal and lack of acceptance of the products.

Impacts on Consumers

Food adulteration is associate with diarrhea, abdominal pain, nausea, vomiting, eyesight problem, headache, cancer, anemia, insomnia, muscular paralysis and brain damage, stomach disorder giddiness, joint pain, liver disorder, dropsy, gastrointestinal problems, respiratory distress, edema, cardiac arrest, glaucoma carcinogenic effects, kidney failure, digestive system disorders, etc.. It is found that there are various chemicals and colors used in fruits and vegetables which are very poisonous for health. Calcium carbide used in mangoes, bananas, copper sulphate used to ripen fruits faster, oxytocin a hormone used for faster growth of pumpkin, watermelon, brinjal, gourds, cucumber. Wax adds shine on apples and pears. Cheap green colors containing chemicals such as metallic lead applied to bitter gourd and leafy vegetables to give fresh colour. Pesticides & herbicides used excessively for growing fruits and vegetables. Consumption of chemical-laden fruits and vegetables can prove disastrous for digestive system, eyes and liver.It can also results in vomiting and diarrhea in children, kidney failure. Oxytocin can lead to damage of the brain.

Laws against Food Adulteration in India

There were a number of laws to prevent food adulteration in the country, but could not be applied across all states as they were not uniform in nature. From 1937 itself, the demand for a legislation that could be applied across India started increasing. At present, the Concurrent list (III) of the Indian Constitution encompasses 'Adulteration of food-stuffs and other goods'. The 'Prevention of Food Adulteration Act' came into existence in 1954. Food Hygiene Directives had shortcomings along with duplication of data which caused a lot of confusion amongst the existing as well as the newer member countries in 2006.

Preventions of Food Adulteration

- Prevention of Food Adulteration Act 1954 and the Prevention of Food Adulteration Rules 1955 as amended from time to time are enforced in the State of Tamil Nadu.
- The Act aims at the abatement of adulteration in food articles of human consumption commonly used by the people so as to enable the people to have access to wholesome and unadulterated food.
- In the urban of the State, Municipal/Corporation Health Officers are functioning as Local Health Authorities and where there is no Health Officer the Commissioner acts as Local Health Authority.

- In the rural areas Medical Officers of the Primary Health Centres are functioning as Local Health Authorities. The Food Inspectors function under the control and guidelines for the purpose of enforcement.
- Lifting of food-samples have been fixed only for 481 local bodies including all Corporations, Municipalities and cantonments and certain Town Panchayats and Panchayat Unions.
- The food samples lifted under the Act are tested for adulteration in seven Food Analysis Laboratories in the State.
- One is under the control of Chennai Corporation and the other 6 situated at Guindy, Coimbatore, Madurai, Thanjavur, Palayamkottai & Salem are under the control of this Department.
- The Food Inspectors as per the guidelines of Local Health Authority and Public Analysts in the above Laboratories authorised for launching prosecution.
- In the Court of law they pursue cases with the assistance of APP & Legal Adviser at the Directorate, in Courts, if the food sample found to be adulterated and certified by the Govt. /Public Analyst.
- The public who is in need of testing the food samples suspected to be adulterated may contact the nearby Food Analysis Laboratory.

Suggessions

- The consumers should understand that the quality of product is more important than the quantity.
- In order to have the proper functioning and implementation of the objectives of the Food Safety and Standards Act 2006, it is necessary to have more food inspectors not only in districts but at taluk levels also.
- Everyone to drink tender coconut water regularly rather than artificial soft drinks which are harmful. Green tea is an excellent choice if you can find it without the added sugar.
- Drink boiled, purifies, filtered water or tender coconut or homemade juice.
- Reduce the frequency of eating fast food and eat more frequently home-cooked food, with plenty of fresh foods and vegetables.
- Adulteration must be perceived as a major threat to social order and this threat must be minimized.

Conclusion

In this paper concluded that adulterated food not only consists of the physical adulterated particles other than food, but it also hosts pathogens which can cause harmful diseases. Food safety, an important global public health issue to ensure sound health. Adulteration of food with toxic chemicals harmful to health has reached an epidemic proportion in India. For having a good and healthy life we should not take adulteration food, and our government should be more polite and should make strike punishment for food adulteration. Adulterated food causes both physical and mental disorders along with malnutrition. Hence we must avoid eating such food. Also the government needs to take necessary actions against the companies and individuals who for the sake of their own profit are manufacturing and selling adulterated products to consumers. The majority of the consumers lack proper knowledge, attitude, and practices relating to food adulteration. Publicizing the newly-passed consumer protection law, other existing food adulteration-related laws, and different aspects of food adulteration via mass media could play a crucial role in raising consumer awareness. Stringent enforcement of the forthcoming unified food law 'Safe Food Act 2013' by the Government would substantially decrease food adulteration in the country.

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