

ADULTERATION OF FOOD: A CONCEPTUAL ANALYSIS**M. Rani¹, J. Yadav², and A. V. Singh³**^{1,2}Institute of Legal Studies & Research, Mangalayatan University, Aligarh, UP³Faculty of Law, Usha Martin University, Ranchi, Jharkhand**ABSTRACT**

Food Adulteration is a social evil. It starts from the field of a farmer. Where fertilizers and pesticides are overused on the crops to enhance its growth or save from insects. Adulteration is made by mixing lower or inferior quality of substance with the good quality of food products. Consumption of adulterated food causes various kinds of diseases like paralysis, heart failure, kidney failure, liver disorders, stomach disorders and in some cases leads to even death of consumers. In maximum cases food products are adulterated for earning more money. Rapid advancement of technology is a boon which can be used in preventing adulteration of food. Food safety apps on mobile, advanced laboratories and trained employees for food safety are also like a weapon to fight against food adulteration. Education and regulation go hand in hand; prevention of food adulteration should also include food wastage. The digitalization and improved technology can revolutionize the present scenario of food safety.

Keywords: Food adulteration, health, harmful, consumer

Introduction

Food Adulteration became a major problem. It is a social evil. Food adulteration starts from the field of a farmer. Where fertilizers and pesticides are overused on the crops to enhance its growth or save from insects. Another kind of adulteration in food is the addition of inferior substance in good quality of products. Sometime food is adulterated accidentally or unintentionally. Unintentional food is adulterated due to ignorance or non-availability of resources or facilities. Intentional food adulteration is done for gaining more money. Natural adulteration is due to using of certain chemicals, organic compounds, prohibited colours that are very harmful to the health of the consumers.

Vegetables and fruits are polished with injurious chemicals to look fresh and pure and preserving for long time. Producers of food articles don't hesitate to mix even harmful material in eatables. Manufacturers of food products do this kind of activity to get high prices of impure or low quality of food articles. Consumption of fast food is increasing day to day. Food manufacturing factories have given birth to various kinds of adulterated fast food. People have adopted such kind of fast food in their routine life. Manufacturing companies adopted different ways of adulteration in food articles. It is because of gaining more and more money. The competition of living a high standard of life may also be a reason of adulteration in food.

With the development of technicalities the business of the manufacturing of contaminated food articles also increased. Milk is adulterated with dirty water, chalk powder, washing powder etc. Vegetables and fruits are adulterated with different types of harmful chemicals. Grains are adulterated with chemicals while growing in the field. Some chemicals are used by the farmers for good growth in the field.

After enactment of the Indian Constitution the business of manufacturing and distributing adulterated food is growing very fast. Manufacturing of food articles companies present their products with very attractive ways on television. Social media have also played a great role to increase this kind of practice. Though legislature has great concern of adulteration of food, in this regard many laws were enacted after the Constitution of India. Such as: Indian Constitution also has made some provisions for the securing the health of the people. Consumer Protection Act, 2019 and Food Safety and Standard Act, 2006 have very widely explained about the provisions regarding the safety of the consumers and food.

Adulterants

Development of new techniques gave rise to the trends of using chemicals and restricted ingredients in the eatable articles. Artificial milk is made by using urea, washing powder or such kinds of other chemicals that are very injurious to the health of the consumers. Some businessmen use harmful chemicals and

prohibited colours in the grains and dals(split). For example: artificial yellow colour or tur dal is added with arhar dal. Sometimes the inferior or waste dals are added with good quality of dals. Chemicals are used in grains or dals for preserving them for long time. Such chemicals are harmful to the health of the consumers. Pesticides are used in the grains for preserving long period.

Vegetables and fruits are not affected from adulteration. Fruits are artificially ripen with calcium carbonate. Lead, cadmium, arsenic etc.chemicals are found in the vegetables. Pesticides are used on fruit trees to protect fruits from insects. Many kinds of chemicals are used in the field to fast growing of vegetables and fruits. Lauki, Kashi phal, kakri, khira etc. vegetables are being injected with harmful chemical. Green vegetables (green Peas) are polished with prohibited green colour to look fresh. Apples, banana, guava, etc. fruits are found with harmful chemical coated in the market.

Good quality of spices is mixed with dust, stones or waste spices. Red chili powder, is mixed with brick powder, haldi powder with artificial yellow colour, dhaniya powder added with horse dung, salt is mixed with chalk powder etc. Asafoetida that is known as hing and used in every vegetable is also made artificial with waste potato and mixed with similar colour small stones.

Ghee is adulterated by mixing animal fats and cheap quality of oils etc. Mustard oil is mixed with cheap quality of vegetable and refined oil. On the occasion of festival sweets are made of with various kinds of artificial khoya that is very harmful to the health of the consumers. Refined oil is made by mixing and refining various kinds of lower quality of grains and refining many times. The consumption of these types of oils is also injurious to the health of the consumers.

Health Hazards

Consumption of adulterated food causes very harmful effects to the health. Such harmful or lower quality of adulterants in food leads to paralysis, heart failure, kidney disorders, liver disorders and such kinds of other dangerous diseases affects the body and sometimes also causes death to the consumers. Inferior or

lower quality substances in good quality of eatable become the reason of hindrance or deficiency of nutritive value in the body. Metallic yellow or kesaridal in turmeric powder, besan or dal is highly carcinogenic and may lead to be a cause of stomach disorders.

Generally edible oil is mixed with mineral oil, turmeric powder with lead chromate, prohibited colours etc. such types of adulterants cause high risk of cancer, anaemia, paralysis, brain damage and abortion or miscarriages and lead in water is the risk of insomnia, constipation, mental retardation and poisoning like diseases to the consumers. Prohibited colour used beyond the limit is the high risk of allergies, hyperactivity, liver damage, infertility, anaemia, cancer, birth defect etc. Milk is generally adulterated with dirty water, chalk powder, detergent and urea. These kinds of adulteration cause stomach problems.

Wheat and grains are commonly mixed with ergot and a fungus containing very injurious substance cause very harmful effects to the health. The vegetables and fruits are polished with chemical dye and wax for giving them shiny and fresh look. Spices are also mixed with the cheaper substances and artificial colours. Generally papaya seeds are added with pepper seeds, asafetida with soapstone, chilli powder with red brick powder, horse dung is added with coriander powder, edible salt is also mixed with chalk powder or white dust like lower quality and injurious materials.

Sweets are decorated with silver yark that is very harmful because silver yark contained aluminum. Sometimes sweets are prepared with artificial khoya. It caused liver disorder, acidity, diarrhea etc. to the consumers. While purchasing food products it is necessary to check that food is pure and safe to consume. Food articles should be purchased from reliable shopkeeper. Consumers should be alert and avoid to chase the fake and attractive advertisement of the food products. While purchasing food items consumers should check properly expiry date, manufacturing date and essential ingredients of the food products on the package.

According to a report from study on vegetables the Food Safety Standards Authority of India,

There are found deadly amounts of lead-cadmium in green vegetables. The fatal quantities of heavy metals were found in 25% samples of vegetables of Madhya Pradesh, 13.6% of Chhattisgarh and 10.6% of Bihar. 8.7% in Gujrat and 8.2% heavy metal in Chandigarh were found. The ignorance and selfish nature of the businessman led them into this malpractice. Rapid advancement of the technology give rise this type of wide spreading practice. To prevent such type of practice it is necessary to monitor the strategic planning.

Conclusion

The study highlighted the picture of the bad effects of food adulteration on body of the consumers. The major area of manufacturing and distributing the adulterated food is of intentional adulteration for economic benefits.

Adulteration is very common and to avoid from its ill effects on body everyone should have to take care while purchasing and consuming eating material. We should have to create awareness among our families, friends and local communities. Complain should be filed to food inspector if any case of adulteration is found. Vendors should be motivated for distributing good quality of food. The positive motivation can act better than penalization and prosecution. Vendors be given training and told about the awareness for ill effects of the adulteration. Rapid advancement of the technology is boon which can be used in preventing adulteration of food. Food safety apps in mobile, advanced laboratories and trained employees for food safety are also like weapon to fight against food adulteration.

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