

CONSUMER AWARENESS REGARDING FOOD ADULTERATION AND ITS INCIDENCE IN THE MARKET

N. Sasi Rekha¹ & M. Milcah Paul²

*¹Research Scholar, Department of Food Nutrition and Dietetics, Andhra University, Visakhapatnam,
Andhra Pradesh, India*

²Research Scholar, Krishi Vigyan Kendra, Bhadrachari, Kothagudem, Telangana, India

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ABSTRACT

Food is the basic and most essential need for growth and survival of living beings. One of the biggest challenges a human being is facing in the present days as a consumer is “Food Adulteration”, as this stands as a severe health risk to them. In the present competitive world, marketers are trying to flood the market with a wide range of different and innovative food products which will attract and motivate the consumers to buy them. In this competition to gain an advantage over the competitors and also to gain more money, they are trying to adulterate foods or make low-quality foods. By eating these, the consumers are facing with a lot of health problems. But the consumer does not know about all such issues happening in the market and is facing lots of losses in terms of health and money. The present study was planned with the main objectives of studying the food adulteration practices happening in the market and the awareness levels of consumers regarding the food adulteration and its effects.

KEYWORDS: *Market, Food, Adulteration, Consumer, Awareness, Effects*

INTRODUCTION

Food adulteration is the process in which the quality of food is lowered either by the addition of inferior quality material or by extraction of the valuable ingredient. It not only includes the intentional addition or substitution of the substances but biological and chemical contamination during the period of growth, storage, processing, transport and distribution of the food products, is also responsible for the lowering or degradation of the quality of food products. Adulterants are those substances which are used for making the food products unsafe for human consumption (FoodSafetyhelpine.com, 2014).

But how far the consumers are aware of the unsafe nature of the food adulteration has to be studied. Hence, this review was done with the following objectives:

- To review about the different food adulteration practices happening in the market.
- To study about the awareness levels of consumers regarding the food adulteration and its effects.

METHODOLOGY

The paper is written by conducting a review of information gathered from various secondary sources of information like the internet, research articles, newspaper articles and thesis.

DISCUSSIONS

To Review about the Different Food Adulteration Practices Happening in the Market

Perera (2016) did a laboratory analysis on Food, quality, adulteration: Identification and detection of common adulterants in food. Edible oil, flour, ghee, pulses and ground spices are the most likely food ingredients to be targets for intentional or economically motivated adulteration of food. Inedible oil, boric acid, chalk powder, lead acetate, metanil yellow, vanaspathi, different kind of starches, synthetic coloring matters and Kesari dhal are the most commonly used adulterants in adulteration of above foods.

Following are some of the adulterants seen in different foods and their health hazards (Source: YOJANA, April 16, 1980, Page 16, GOI):

Sr. No.	Adulterant	Food Articles	Effects on Health
1	Argemone oil	Oils and fats	Epidemic dropsy, glaucoma, blindness, cardiac arrest.
2	Pesticide Residue	All types of foods	Acute or chronic, poisoning, with damage to nerves and vital organs.
3	Mineral oil (used motor oil)	Oils and black pepper	Diarrhea, vomiting, cancer.
4	Methyl alcohol	Alcoholic liquors	Blurred vision, blindness, death.
5	Lead chromate	Turmeric and powder mixed spices	Anemia, brain damage.
6	Metanil Yellow	Turmeric, mixed spices, saffron, dehusked pulses, rice, golden beverages	Tumours, cancer, testicular degeneration in males.
7	Lead	Tap water, some processing foods	Lead poisoning, causing footdrop, anemia, brain damage.
8	Kesari dal	Pulses and besan	Paralysis of legs
9	Dung	Coriander powder	Tetanus
10	Iron filling	Suji, tea leaves	Possibility of tetanus

Figure 1

Many studies found out about the instances for adulteration of milk. Ramya et.al. (2015) examined 50 milk samples in and around Proddatur, Andhra Pradesh and reported that 8.00%, 10.00%, 40.00% and 2.00% of samples were adulterated with starch, glucose, sucrose and skim milk powder respectively. Geeta et.al. (2015) examined milk samples from Secunderabad city and reported that 4.50%, 46.60%, 20.00%, 33.30% and 33.30% of samples were adulterated with Starch, Sugar, Glucose, Skim milk powder, and Maltose respectively.

To Study about the Awareness Levels of Consumers Regarding the Food Adulteration and its Effects

Joshi et al., (2017) conducted a study on Awareness Regarding Food Safety and Consumer Protection amongst the Women of Dantiwada Village, Gujarat (N=40). The results showed that about 60.00% of women were having information about common food adulterants and around 45.00% were aware that food adulteration is harmful to health. Around 62.50% women accepted that they very often have experienced food adulteration. It was also observed that the literate women were more aware in comparison of illiterate women. The income level of the women did not show any significant effect on the awareness level. The effect of electronic media on the awareness level of women was higher than that of print media.

Dhanvijay and Ambekar (2015) conducted a study on assessment of student's awareness about Food Adulteration. It was found that before the education programme, 100.00% respondents were aware that milk is adulterated with water and cereals with mud grits and stones. Eighty per cent and above were found to be aware about adulteration of urea to milk, colorants to spices, roasted nuts and pulses and adulteration of used tea leaves to tea. Respondents were found to be less aware (1.00% to 27.00%) about common adulterants to food such as milk products, ghee, sago and coffee. However, after the programme, the awareness of the respondents about common food adulterants was found to be increased up to 95.00% to 100.00%. Majority 96.00% and 95.00% respondents had low awareness about a procedure for consumer complaints and Laws pertaining to food adulteration respectively, followed by 85.00% respondents about detection of food adulteration. After the programme, maximum respondents were found to be highly aware (86.00% to 98.00%). The study findings gave a conclusion that the student's awareness was low.

Nagvanshi (2015) conducted a study on common food adulterants and knowledge about adulteration among women of Rae Bareli District. Out of all respondents, only 72.00% subjects had knowledge about the adulteration of foods and the remaining respondents had no knowledge about maximum adulterants. Majority of subjects knows about AGMARK certification and do have not knowledge about diseases related to adulteration of foods. Majority of the subjects (31.00%) thinks that if any article does not have a Government certification and affects their health (35.00%), it may be an adulterated one. Only a few respondents (25.00%) knew that if the two above options are present, along with a less price and less quality of the product, it may be adulterated. Maximum subjects (50.00%) think that if any fruits and vegetables have normal size and normal colors it may not be adulterated. Majority respondents (38.00%) observed the milk adulteration by the smell of milk. The data also revealed that majority of the respondents have knowledge about adulterants of wheat and rice Bengal gram and red gram dhal, green pea, Black pepper, asafoetida (hing), Dalchini, Cumin Tejpatta and honey adulterants. Majority of the respondents had no knowledge about adulterants of wheat flour, liquid milk, and vegetable oils, vegetable fats, gram flour, Turmeric, coriander seed powder, chili powder, cloves, sugar powder, coffee and common salt. Maximum subjects (71.00%) had no knowledge about sacrin adulterant which is used for increasing sweetening of sugar and fruits.

Prasanti (2014) did a surveillance of quality and adulteration of milk sold in and around Hyderabad and its public health significance. The awareness about chemical and microbiological quality, milkborne diseases, adulterants, synthetic milk, thickening agents, preservatives, neutralizers and heat effect was high in adult woman compared to adult men and among them, it was high in high level of education followed by middle-level literates and least in illiterates. Among the student's awareness was high at the college level, least at primary school and moderate from high school (n=450). Among the milk consumers (n=515); Gastrointestinal, Nervous, Kidney, Cardiovascular, Muscular, Orthopaedic, Visual, Reproductive, Respiratory and Skin problems was reported as 2.5, 0, 0, 2.5, 2.5, 2.5, 0, 2.5, 2.5 and 5% from dairy farms; 46.67, 10, 12, 9.33, 13.33, 5.33, 7.33, 8, 6 and 6% from traditional vendors; 50, 12.5, 10, 5, 5, 2.5, 7.5, 5, 2.5 and 12.5% from parlour selling unpacked milk, 3, 0, 1, 2, 4, 1, 0, 0, 1 and 1% from branded sachets; 50, 6.25, 5, 5, 8.75, 2.5, 5, 2.5, 3.75 and 7.5% from unbranded sachets, 16, 8, 0, 4, 4, 4, 8, 4, 4 and 16% from cooperative chilling centres; 13.33, 6.67, 0, 0, 3.33, 3.33, 3.33, 3.33, 3.33 and 13.33% from private chilling centres and 80, 12, 16, 14, 24, 16, 14, 16, 24 and 28% from Restaurants respectively.

Abidfaheemet *et al.* (2013) conducted a study on family's knowledge on Food Adulteration in the selected village of Udupi Taluk, Karnataka, India and surveyed about 75 families. The study findings showed that the majority (60.00%) of the subjects had moderate knowledge on food adulteration. They found a significant association of knowledge score on food adulteration with age and educational status of the respondents. They suggested that the awareness of the public with relation to food adulteration should be ongoing especially to the general public with a lower level of education.

Gupta and Panchal (2009) in their study on the extent of awareness and food adulteration detection in selected food items purchased by homemakers (n= 281 families) found that education, family income and occupation are major factors that affect the extent of awareness about food adulteration and overall education shows the highest impact. Regarding consumer awareness the result depicted that majority, that is, two-thirds of the respondents were moderately aware about their rights and responsibilities related to food quality and food adulteration. Little less than half of the respondents have sometimes or other faced problem of adulterated food, one-fifth of the respondents have never come across adulterated food or maybe they were not aware about adulterated food.

Thakur *et al.* (2009) conducted a study on the Impact of health education package on knowledge and practices of women regarding food adulteration (n=100). 52.00% of the subjects were aware of the adulteration and even 15.00% of them reported to have experienced it. A majority (80.00%) of the subjects were aware of water used as an adulterant and one third were aware of the starch as the adulterant of milk. 57.00% of the subjects were able to name stone and twigs as a common adulterant of pulses, where as one-third of them even reported Makki ka Atta as the adulterant in Basin during pretest. But, after the intervention knowledge of the subjects increased significantly, except gain in knowledge for asbestos powder as the adulterant. Apart from this, the study results also depicted that none of the subjects was aware of the physical and chemical test employed to detect to adulterant. But after the intervention, a significant gain in the knowledge of the subject was observed, except for two adulterants (color and kesari dal), the partial gain in knowledge was observed. During pre-test more than half (55.00%) of the subjects reported that adulterated food items when consumed is hazardous to health. Weakness, Nausea, Vomiting and Diarrhea were the health hazards reported by 17.00%, 21.00%, 23.00% of the subjects respectively in the pre-test. But the significant gain in the knowledge of the subjects was observed during post-test. Majority of the subjects expressed a positive attitude towards the health education package.

CONCLUSIONS

It can be concluded from the results of various studies that there is a lot of adulteration being done in different food products; and when these food products are consumed, they are causing a lot of health issues to consumers. But how far the consumers are aware of the adulteration and its effect on health is still a question. Most of the studies reviewed showed that consumers were moderately aware of the adulteration but were unable to detect them at their household level and also are unaware of the health issues caused by the adulterated foods. It can also be seen that education programmes are very much suitable to increase the awareness in consumers regarding the food adulteration and its health effects. Hence some Government Organisations, Educational institutions and NGO's should come forward and conduct some educational programmes and awareness campaigns about food adulteration and its health effects.

Recently, the Food Safety and Standards Authority of India (FSSAI) have proposed stringent punishment of fine of Rs.10 lakh and imprisonment up to life term for those adulterating foodstuffs. The draft proposal, recommended a new section in the FSS Act - Section 59 - that would lead to punishment for seven years, which can be extended up to life imprisonment besides a fine of Rs.10 lakh if individuals or businesses intentionally add adulterants to food products. The proposals are part of key changes recommended by FSSAI to amend the Food Safety and Standards Act, 2006. Officials said the provisions have been proposed in the wake of increasing instances of food adulteration, which are impacting people's health. It also suggested a fund to undertake special programmes on food safety and nutrition (G PLUS NEWS, June 25, 2018). Hope such initiatives will make the manufacturers or sellers to stop malpractices like adulteration and protect the consumers from the ill-effects of adulterated food.

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