International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Assess the Knowledge Regarding Food Adulteration Among House Wife: A Study on Berhampur City of Ganjam District, Odisha

Dr. Rita Hansdah[1], Jyotirmayi Rath[2], Dr. Namita Mahapatra[3]

[1,2,3]P.G. Department of Home Science, Berhampur University, Odisha, India

Abstract

Adulteration of food has occurred if it contains any substance injurious to health; it contains any filthy, putrid or decomposed substance; it is prepared, handled or stored under unsanitary conditions; diseased animals have been used in preparation; the container is made of a poisonous substance which will render the contents harmful; contains colours and preservatives other than those permitted by law; it contains pesticide residues or additives not recognised as safe etc. foods may be adulterated either intentional or incidental at all stages from production to selling. Food is adulterated if its quality is lowered or affected by the addition of substances which are injurious to health or by the removal of substances which are nutritious. The present study focuses on the awareness of the housewives among the consumers on food adulterants and to find out the extent of adulteration of the food stuffs. This study was conducted to assess the knowledge about food adulteration among 100 housewives in selected areas, Berhampur. A survey was conducted to collect the information through interview method. They must be well acquainted with the physical food characteristics such as appearance, colour, shape, texture, touch, flavour, taste etc. The urban and rural women are using the home test method for detecting food adulteration. Some urban house wives are having knowledge about food law and the rest of the housewife's are not aware about food law. The rural housewife's are not having any knowledge regarding food law, food standard and consumer protection Act. It can be concluded that some women are not having any knowledge regarding different adulteration programme. So, the government and people should promote the different adulteration programme. The media should take a great role to aware women in an interesting and attractive manner. Hence, it is essential to create community awareness and take interventional measures for the health and wellbeing of the community.

Keywords: Adulteration, Housewife, Knowledge, Awareness.

Introduction:

For good health we must have good food. Good food is a prime necessity of life. The health of a nation depends on the quality of food which the people eat and the strength of the nation is turn, depends on the health of its people Adulteration and contamination of food stuffs are wide spread is many countries, and pose a great problem to the health of the nation.

One of the causes of adulteration is that there is a wide gap between production and supply of food articles. The quality or purity of a particular food cannot be judged by determining the proximate constituents in it. There are certain constituents which have to be ascertained as these help to decide whether or not the

concerned food is wholesome and fit for human consumption. In case, it is unfit for human consumption it may be classed as being adulterated. A consumer tends to be guided mostly by the price, visual appeal and the claims made by the advertisements.

Food adulteration is of substituting it wholly or impart by any cheaper or inferior substance or inferior substance or of removing of its constituents a wholly or impart whose effects adversely the nature of substance or quality of food. According to the "Indian prevention of food adulteration Act" 1954. (PFA) any ingredients which when present in food is injurious to health is an adulterant. The act prohibited the manufacture, sale and distribution of not only adulterated foods but also foods contaminated with toxicants and misbranded foods. a central food Laboratory established under the act is located at Calcutta for the purpose of reporting on suspected food products.

According to Bagchi (1984) food adulteration is undoubtedly a social evil which can be regarded as the outcome of an interaction between a number of social, economic, technical and human behavioural factors. It is an indication of sick society and can be considered as a crime similar to other crimes like theft or burglary. Like any other crime, food adulteration is expected to continue in our society as long as the existing factors which generate crime will continue.

According to Pillai S, Chakraborty J (2017) study on knowledge of food adulteration among homemakers regarding food safety standards in selected rural community. The overall analysis of knowledge, 26 .6% had average knowledge, 20% had good knowledge and 3.33% had excellent knowledge. The maximum knowledge score among the makers were in the area of food adulteration (64.3) followed by detection of food adulterant (51.34%) and Consumer Protection Act (38.7%).

"Another Central Food Technological Research Instituter," Mysore has been recognised as another laboratory for the testing of adulterated foods for the southern regio. "A central committee for food standards "has been constituted under the act and has been changed with function of advising the Central Government on matters relating to the food standards. The State Government will set up food testing laboratory and will appoint public analysis adequate staff to report on suspected foods.

Adulteration may be intentional or incidental. Incidental food adulteration is usually due to the ignorance negligence or lack of proper facilities. This type of contamination can take place any time during the period of growth, harvesting, storage, processing, transport and distribution.

Intentional adulteration id done when:

- Demand is high as compared to the availability.
- Adulterants are easily available.
- Punishment to the adulterator is non- deterrent.
- There is greed for a large margin of profit.

All most all foods milk, cereals, dals, spices, ghee, oils and beverages are adulterated. The adulterant used generally mixes well with the major food article in colour, shape, size and appearance. The more highly priced foods and those foods which are in great demand are the ones more often widely adulterated. By adulterating the food stuffs, the merchant is benefited in many ways. First more weight is added to the commodity. Secondly, addition of colour improves the appearance of the product and hence substandard product can fetch higher price. Thirdly, new product when combined with old one, lower the quality and at the same time substandard commodity is sold at a higher rate. So, it makes difficult for an average buyer to detect it at first sight. Sometimes it may be detected only in well- equipped laboratories. The harmless forms of adulteration like addition with milk, moisture to butter, mixing of edible oils, with cheaper edible oils, many types of adulteration are positively injurious to health.

Rice and pulses are often polished with take a silicate containing asbestos fibre, which is not removed even after washing, cleaning and cooking. The other common adulterants used in cereals such as rice and wheat are clay particles, stone and seeds. Most yellow. When Kesari dal consumed continuously for a few months, it results in the development of lathyrism, a permanent paralysis of the lower limbs.

Spices particularly because of their high cost, are the most adulterated item in food commodities. Chili powder adulterated with wood shavings. Black pepper is sometimes mixed with papaya berries. Food grains and pulses are often indiscriminately sprayed with insecticides to prevent to destroy pests, chilies are soaked in soluble coal tar dyes to give them dipper hue, black gram husk and used tea leaves are utilised for adulterating tea dust or leaves. These are a few of many common practices that are used today. Many cheap sweets, sherbets in variety of colours and ice fruits are adulterated with many non-permitted coal tar dyes. These undesirable colours can impair the liver and can be cause of cancers. The mineral oils and non-edible oils when mixed with edible oils can induce nausea, purging, impaired liver function and cancer. Continuous use of mustard oils with more than 11 percent argemone seed oil causes the disease "epidemic dropsy" in people. Many moulds infested grains and oils seeds are further processed into flours and oils. The main danger is due to the mould growth which produces many hidden toxic substances called micro toxins. This can cause various diseases and they act nervous and neurotoxin impairing the general health. Some also have been found to be carcinogenic.

The food adulteration exists all over the world. Due to tremendous improvement in food industry and technology. Various chemical substances like artificial colours, preservatives, antioxidants, emulsifiers, flavours and tests improves are increasingly being used. In developing countries adulteration is to found to be rampant even in primary articles of food like milk, ghee, edible oil and food grains. Shortage of foods and spiralling prices have aggravated the problems.

Objective:

- To assess the knowledge and awareness among the housewives on food adulterants.
- To find out the extent of adulteration of different food stuffs.

Materials and Methodology:

Selection of area: both rural and urban areas of berhampur city is selected for studying the knowledge of women regarding food adulteration.

Selection of Sample: To rich the goal the select hundred household randomly from the Berhampur city., interview method was adopted for collecting the data regarding adulteration in foods. The data was collected during the month of July 2024, from the housewife.

Statistical analysis: the data collected from the survey was tabulated and analysed statistically. The percentage of different categories its tabulation representation. The collected data were produced in tabular form.

Result and discussion:

In this study a total number of 100 women housewife participated in this survey and attempt the questionnaire.

Table 1 socio demographic profile of the respondents

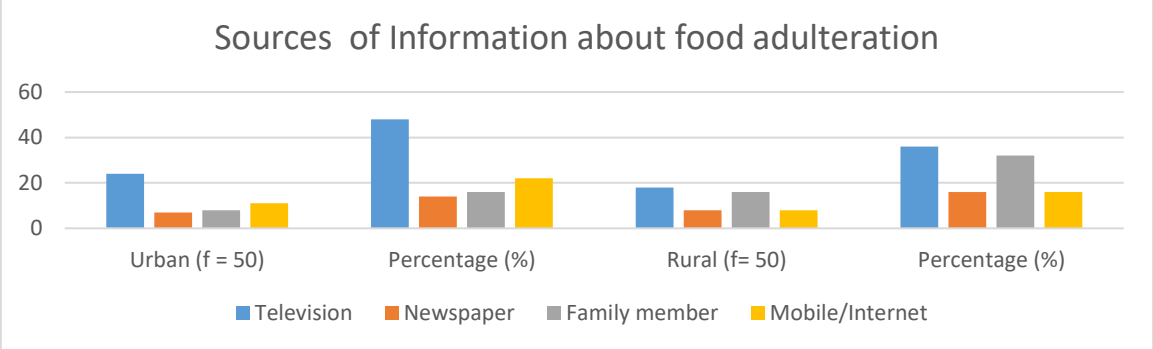
Variable	Urban (f = 50)	Percentage (%)	Rural (f= 50)	Percentage (%)
Age				
21- 35	14	28	18	36
35-40	20	40	15	30
40- 45	16	32	17	34
Qualification				
Matriculation	8	16	18	36
Higher Education	12	24	11	22
Graduate	12	24	12	24
Above	18	36	9	18
Family type				
Joint	14	28	42	84
Nuclear	36	72	8	16
Socio-economic status				
Middle Class	30	60	8	16
Lower Class	20	40	42	84

The above study shows that among rural and urban housewife, majority of them i.e., 18(36%) and 20 (40%), respectively, belonged to age group 35-40 years. It was observed that among rural housewife, the majority of them, i.e., 18(36%) had matriculation and among urban housewife majority of them 18(36%) were above graduate. Here we found that majority of rural housewife 42(84%) live in joint family whereas among most of the urban housewife 36(72%) were live in nuclear family. In this study we found that the majority among rural housewife 16(84%) were belongs to low class family and 30(60%) of urban housewife were belong to middle class family.

Table 2 Sources of information about food adulteration

Variables	Urban (f = 50)	Percentage (%)	Rural (f= 50)	Percentage (%)
Television	24	48	18	36
Newspaper	7	14	8	16
Family member	8	16	16	32
Mobile/Internet	11	22	8	16

Figure 1 Sources of information about food adulteration



A study conducted in Berhampur city to assess the awareness of food adulteration among household, revealed that most of the respondents used to get the information about food adulteration from television closely. Majority of among the urban housewife 24(48%)% used to get the information about food adulteration through television, whereas among rural housewife 18(36%) used to get the information about adulteration through television. In this study less number of housewife used to get the information from newspaper among urban housewife 7(14%) used to get information from newspaper, whereas among rural housewife8(16%) used to get information from newspaper. 8(16%) of urban housewife got the information from family member and 16(32% of rural housewife got the information from relative and family members. Only 11(22%) of urban housewife and 8(16%) of rural housewife got the information from internet and mobile phone.

Table 3 common food adulterants in food items they know about:

Variable	**Urban (f=50) %**	Rural(f=50)%
Artificial colour	24(48%)	20(40%)
Water	22 (44%)	25 (50%)
Bricks dust	2(4%)	3(6%)
pebbles	2 (4%)	2 (4%)

The above study conducted that all the housewives of both rural and urban area had chosen those adulterants that can be easily detected by sight like artificial colours, water, bricks dust and pebbles.

Table 4 knowledge of housewife regarding government regulation and act.

Variable	**Urban (f=50)**	**Percentage(%)**	**Rural(f=50)**	**Percentage(%)**
FSSAL	6	12	1	2
Consumer protection Act	8	16	2	4
PFA	2	4	1	2
Do not know	34	68	46	92

FSSAI: Food Safety and Standard Authority of India
PFA: Prevent Adulteration Act
In study conducted that 90% of the respondents were not aware about the government law regulation and act. of food adulteration. Majority of among rural housewife 46(92%) did not know the name of particular government regulation and act and majority of among urban housewife 34(68%) did not know the government regulation law and act, where as 8(16%) of urban housewife were aware about consumer protection act and 6(12%) of respondents were aware the FSSAI, only 2(4%) of housewife were aware the PFA.

Table 5 Knowledge regarding different adulteration programme

Variable	**Urban(f=50) %**	**Rural (f=50)%**
Yes	6(12%)	--
No	44 (88%)	50(100%)

In urban area 6(12%) of housewives are having knowledge about adulteration programme and 44(88%) of housewives are not having any knowledge about adulteration programme. In rural area most of the women are not having any knowledge regarding different adulteration programme.

Table 6 Criteria used by housewife to detect adulteration in food items.

Variable	Urban (f=50) %	Rural (f=50) %
By Tasting	2(4%)	2(4%)
By Visual inspection	2 (4%)	2(4%)
By Touching	4(8%)	2 (4%)
By Smelling	2(4%)	4(8%)
By using all (Tasting, Visual, Smelling and Touching)	42(84%)	40(80%)

In the above study conducted that most of the housewife used to detect the adulteration by all four criteria (visual, tasting, touching and smelling) all the respondents in this study used to detect the adulteration using their sense. Majority of among urban housewife 42(84%) used to detected the adulteration using four criteria like visual, tasting, touching and smell the different food stuff, whereas among rural housewife 40(80%) used to detect adulteration by using all criteria.

Table 7 Identification of food sample for detecting food adulteration

Sl. No.	Food Item	Adulterant
1	Cereal	Stones, sand and grit
2	Pulses	Matalin yellow
3	Milk	Water, urea and starch
4	Salt	Absences of iodin
5	Black pepper	Papaya seed
6	Chili powder	Wood/dust powder
7	Turmeric	Artificial colour, calk powder
8	Wheat flour	Chalk powder
9	sweets	Saccharin, harmful colour

Conclusion:

In present study it could be concluded that most of the house wife of both the areas of rural and urban know about adulteration. They must be well acquainted with the physical food characteristics such as appearance, colour, shape, texture, touch, taste etc. the urban and rural house wife are using the home test method for detecting food adulteration. Majority of respondents were not aware about food adulteration in rural area where as urban housewife was having more knowledge about it. To avoid this problem adult education programme should held in rural areas. The media should take a great role to aware housewife in an interesting and attractive manner.

The knowledge of women about the nature of adulteration, various method of detection of adulteration and information about prevalent standard and Acts will go a long way in helping the government to fight

this problem. Creating awareness among housewives is very important because they are responsible for most of household purchase decisions. Major steps to be taken by the housewife are:

- House wife must be well acquainted with the physical food characteristics, such as, appearance, colour, shape, texture, consistency, touch, flavour, odour and taste etc.
- Foods packed by the dealers of repute and having an ISI and Agmark seal should be purchased.
- Commodities should be purchased from standard shops.
- Whole food such as cereals, pulses and spices should be purchased and processed at home.
- The date of manufacture and expiry of the products must be noted and only the latest manufactured products should be purchased.
- As far as possible, foods coloured artificially should be avoided.
- Any item found adulterated must be referred to the health authorities.
- House wife should have some knowledge about simples' tests to find adulteration.

A better-informed public supported by effective health information would help housewife to make better food choices and prevent food borne illnesses.

References:

1. Acharya, M.R. and Shah, R.K," Microbiological and chemical attributes of mango pulp samples", Journal of Food Science Technology. 36(4): pp 339-341, 2009.
2. Abhirami, S. and Radha "Detection of food adulteration in selected food items procured by homemakers", International Journal of Recent Scientific Research . 6 (80:pp 5938- 5843; 2015.
3. Food Adulteration and Family's knowledge on Food Adulteration in selected village of Udupi Taluk, Karnataka. Abid Faheem T.K., Baby S. Nayak & Maxie Andrade Department of Community Health Nursing, Professor & Head, Department of Child Health Nursing.
4. Thakur M, Walia I, Singh A. Impact of health education package on knowledge and practices of women regarding food adulteration. Nursing and Midwifery Research. 2009, 5(1)
5. Chtlange L.R To study Awareness about prevention of food adulteration Act- 1954 (PFA- 1954) among working women of washim and their attitude towards seeking legal remedy in case of Adulteration. The international Journal of Science and Techno ledge. 2014 ; 2(9):68.
6. Gupta N, Panchal P. Extent of awareness and food adulteration detection in selected food items purchased by homemakers. Park J Nutr 2009; 8(5):660. DOI:10.3923/pjn.2009.660.667.
7. Nagvanshi D.A Study on Common Food Adulterants and Knowledge about Adulteration among Women of Rae Bareli District. International Journal of Home Scienc. 2015;1(3):5-8.