

**A Study On The Consumer Rights On The Impact Of Food Adulteration
Practices Followed In Tamilnadu**

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ABSTRACT

Study for food practices and safety measures were done in selected area of Salem which was also validated by the wetlab methods. Result shows that regardless of the age income and religion, all of the groups are well aware the food adulteration and educated people are less prone to the effect. Currently food malpractices are increasing in various places of Tamilnadu and all the measures taken by agencies are failed to detect rapidly and many times it becomes late when the adulteration is detected. Worst scenario is the adulteration of some branded items of the children's and in the women's use such as milk cheese, ghee and oils. In terms of adulteration any how all the stores contains adulterated food however branded items contains less percentage of adulteration than local item. This may be caused due to inactive agencies or longer process of legal system

Key words: Food safety, malpractices, food adulteration practices

INTRODUCTION

Food is a substance for human consumption which provides nutritional support to human body and contains essential nutrients like Vitamins, Fats, Carbohydrates, Proteins etc. Food usually consists of either plant or animal origin. Individuals depend on different sources of food to satisfy their physical needs and their taste varies from geography to geography. However, irrespective of source or taste, every human being has a right to safe food, which is nutritious and diseases free. Otherwise, unsafe food causes many acute and lifelong diseases,

ranging from diarrhoeal disease to various forms of Cancer.¹ Food industry mainly consists of milk and milk products, pulses, grains, fruits and vegetables, chocolates, water, beverages, jams, bakery products, processed food, snacks, ready to cook and ready to eat foods etc., Food industry provides a vital linkage between the Agriculture and manufacturing. Food is considered to be adulterated when some inferior substitute or substandard material is added to it. The adulteration may happen by adding of extraneous matter, subtracting the essential ingredient or misbranding the product to mislead the consumers about the quality, standards or other claims or non-compliances of standards, in order to generate the sales of the product. In most of the cases the adulteration is caused due to deliberate and intentional act and sometimes due to unintentional act on account of ignorance or carelessness. The parody on adulteration goes like this:

Mary had a little lamb
And when she was saw it sicken
She shipped it off to Packington
And now its labeled chicken

The present study was planned to find out food adulteration practices followed and awareness in Salem city of Tamilnadu (urban area). Therefore, factors affecting purchasing decisions like their religion culture² and the perception bout food quality may reduce the malpractices of food adulteration. Nutrition and lifestyle interventions can promote healthy diets and improve health outcomes population³.

In view of the importance of food in human life, the Government of India has legislated food laws from time to time. The laws regulating the quality of food have been in force in India since 1899. Article 47 mandates the duty of the State to raise the level of nutrition and the standard of living and to improve public health. The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties. Until 1954 several states have their own food related laws. The Government of India has enacted central legislation called Prevention of Food Adulteration Act 1955, with an object to lay down the standards for food and rules for labelling and packaging, which was repealed in 2011. Till the enactment of Food Safety and Standards Act

¹ Monitoring Contaminants in food, available at <http://www.who.int/foodsafety/en/> (retrieved on October 06, 2011).

² Mead, E., Gittelsohn, J., Kratzmann, M., Roache, C., & Shama, S. Impact of the changing food environment on dietary practices of an Inuit population in Arctic Canada. *J Hum Nutr Diet*, 2010; 23 (Suppl 1), 18–26

³ Malela J. Cultural definitions of the meal. In *Dimensions of the Meal: The Science, Culture, Business, and Art of Eating*. Meiselman HL, Ed. Gaithersburg, Md, Aspen Publishers, 2000, p.7 –18.

2006, multiplicity of laws like the Prevention of Food Adulteration Act, 1954 (37 of 1954), Fruit Products Order, 1955, the Meat food product Order, 1973, the Vegetable Oil Products (Control) Order, 1947, Edible Oils Packaging (Regulations) Order, 1998, the Solvent Extracted Oil, De-oiled Meal, and Edible Flour (Control) Order, 1967, the Milk and Milk Products Order, 1992, Essential Commodities Act, 1955 (10 of 1955) are in existence⁴

The following quotation from Mahatma Gandhi, the Father of the nation is very appropriate in this context:

- A customer is the most important visitor on our premises.
- He is not dependent on us, we are dependent on him.
- He is not an interruption in our work. He is the purpose of it.
- He is not the outsider on our business. He is a part of it.
- We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so.

Objective of the study:

1. To study the socio Economic status of the consumers
2. To study the Buying practice of different food items in term of choice of labeled mark, local verses branded, retailer verses supermarket
3. To find out the awareness of food adulteration in various items including spices (coriander red chilli etc) and milk items such as ghee and oil either through TV or other sources

MATERIALS AND METHODS

Research design

Survey method was used in the present study with a structured type questionnaire (by the schedule cum interview method) as the data collecting instrument. A stratified sampling was done from Jan, 2019 to June 2019 on food adulteration, safety knowledge and practices of urban consumers in the Salem districts of Tamilnadu. Before finalizing the questionnaire, the questionnaire was pilot tested on 10 participants (10% of 100 respondents) modifications were made to the questions. A pilot or preliminary samples are generally drawn from the population and the statistics computed from this sample are used in determination of the sample size. The

⁴ All Acts are repealed effective from 05/08/2011

sampling included 60 female and 40 male respondents. Respondents were basically from household.

Data analysis

A questionnaire was prepared to capture the relevant variables, which was initially pre-tested data was collected from 100 respondents in Salem District.. The data were analyzed by chi square test, student t-test. Validation of the result were done by the testing various food materials collected from three selected regions. All sample testing were done by researcher herself and every sample were taken from three different area-orderly bazaar, **Sevapet and Leebazar area.**

RESULT AND DISCUSSION

Observations are food adulteration and food buying practices demographic profile & socioeconomic status of respondents show that Hindu is present in the majority and is 85% of total populations while Muslims are 12% and other represents only 2.3 %. Contributions of other religion such as Muslims are low in total populations while others are only less than 3% ($P > 0.05$). Statistically observed chi ($\chi^2 < 5.99$) on the basis null hypothesis is accepted that majority of population in selected area belongs to Hindu. Data shows majority of the age group (35%) are age range 26—35 (one third) while people of age range > 35 are 21% ($p > 0.05$) statistically observed chi ($\chi^2 < 9.48$ at DF4) on the basis null hypothesis is accepted which proves the hypothesis that majority of population in urban area is young Young Male population makes major contributions in buying the food from market. In over 90% of households in India, it is the women who are involved in the preparation of meals. Earlier studies conducted on adults have indicated that food safety knowledge tends to increase with age and practice Data shows majority of the educated people (44%) were graduate out of which male are approx 48% and female 40%. Percentages of post graduate and intermediate are low (almost similar 13-14% in both male and female). Statistically observed chi ($\chi^2 < 9.48$) on the basis null hypothesis is accepted that majority of the female are educated.

In one study it is found that well-educated people are generally belong to high income Group⁵. In many societies women are more informed about appropriate methods of food handling and storage than men. Better educated consumers often recognize the importance of food safety and

⁵ Sudershan, R. V., Subba Rao, G. M., Rao, P., mVardhana Rao, M. V., & Polasa, K. Food safety related perceptions and practices of mothers – A case study in Hyderabad. India. Food Control, 2008; 19(5), 506–513.

younger respondents have shown the greatest need for additional education on food safety⁶. Baker found that women, having higher education level and members of households with young children were the most likely to have an extreme risk avoidance response. Food mishandling is thought to be more acute for young adult men and individuals with an educational level beyond high school than other groups (Altekruse, Yang, Timbo, & Angulo, 1999). It was observed that women, more so those with higher educational levels, were more likely to check food labels than men, (FSAI; Yang et al).

Economical status

70% were belonged to MIG; (20%) belong to HIG. ($p < 0.05$) observed chi ($\chi^2 > 5.99$) on the basis null hypothesis is rejected that income have indirect effect over following good food practices.

Food choice and practices**Food choice**

Data of the essential in food like tasty food, healthy food, unadulterated food or the every essential attribute in the food. Which show (36.3%) like tasty food ($p < 0.05$) and total observed chi ($\chi^2 > \text{expected}$) on the basis null hypothesis was rejected that tasty food are always healthy. There are reports of food borne illness associated with the consumption of fruit juices at several places in India and elsewhere⁷. A study conducted during the period Jan, 2019 to June 2019 in Tamilnadu, India,

Purchasing Behavior of food materials

Data of purchasing Behavior of respondents regarding food materials. Data shows 42% like to purchase from stockiest ($p > 0.05$) Chi (χ^2) observed $< \text{exp } 7.8$) which means that buying practices of food material from stockiest is followed by both neglecting good food practices which is reflected by chi (χ^2) total (14.6) $> \text{chi expected}$ on the basis null hypothesis was rejected that stockiest provide adulterated free products.

Causes of choice for food quality

56% like to include all the factors for better food quality ($p > 0.05$) observed chi ($\chi^2 < 9.48$) on the basis null hypothesis was accepted that people need good quality food products. Their choice

⁶ Li-Cohen, A. E., & Bruhn, C. M. Safety of consumer handling of fresh produce from the time of purchase to the plate: A comprehensive consumer survey. *Journal of Food Protection*, 2002; 65(8), 1287–1296.

⁷ Parish, M.E. (1997) Public health and non-pasteurized fruit juices. *Crit. Rev. Microbiol.* 1997;23,109–119.

of good quality food products may be due to spread of food born disease at mass scale or as the case of dropsy.

Studies of adulteration in different food commodities

a. Cereals

Data, shows 57% found all type of adulterations in cereals ($p > 0.05$) observed chi (χ^2) < 7.8) reveals that hypothesis is accepted that majority of the cereal available in the market are fortified with all type of adulteration which has direct linked with people's health. Similar observation has been done by Neelkanta and Anand⁸ which commented sadly that people prefer to absorb and endure the wrong done to them rather than fight against injustice. Buyer has to find out the desired qualities of goods sold at satisfactory prices. Effective buying requires a specialized knowledge of content of goods, their resources and their use (Kotler, 1990). Though government has passed several acts and laws to protect consumers and seek re-addressal of their grievances they are not in a position to utilize their knowledge or are simply ignorant of these⁹. Validation result show different type of rice was adulterated with stone in the entire sample tested.

b. Pulses

Survey show there is heavy demands of some specific pulses show presence of various type adulterants in pulses (Arhar dal) such as mixing of lathyrus or artificial yellow color (> 0.05) individually observed chi (χ^2) < 7.8 and total observed value (7.23) expected on the basis null hypothesis was accepted that adulteration is directly related with choice of consumer and heavy demand and less availability may be one factor that directly effecting the practices of shopkeeper. Validation result show pulses contain inferior pulses, synthetic colour, lathyrus and stone.

c. Edible oils

Some worker reported that edible oils are sold with argemone (*Argemone Mexicana*) oil leading to deaths of hundreds of people (Singh et al., 2000). (41%) (Table 2) observed adulteration inn

⁹ Gupta, M. & Ogale, N. Educational needs of consumers regarding consumer protection laws. Journal of Research, H.A.U. Hissar, 1988:18(3) 236-241

mustard oil (>0.05). This may be linked with heavy use of edible oil or choice of people for buying cheap products which for making profit often fortified with other inferior oil having same color or physical property.

d. Spices

Adulterants in spices were included in the survey and results shows that 98% of the people feel there is adulterants in spices, (>0.05) observed chi (χ^2) < 3.84) on the basis null hypothesis was accepted that there is adulteration in the spices. Result of adulterants in coriander powder with horse dung, leaf powder, soil as adulterants. (>0.05) statistically observed chi (χ^2) < 7.8) on the basis null hypothesis was accepted that coriander are adulterated. 85% observed there was brick powder as adulterants in red chili powder while sand was observed by 6% respondent's (<0.05) observed chi (χ^2) < 7.8) on the basis null hypothesis was rejected that only few component of the spices may be adulterated. 99% observed that there is adulterants in turmeric powder (>0.05) observed chi (χ^2) < 3.84) expected on the basis null hypothesis was accepted that there is adulterants in all type of item present in shop. There was addition of yellow colour or ararote in turmeric powder, soil in the turmeric powder (>0.05) observed chi (χ^2) < 7.8) on the basis null hypothesis was accepted that there is synthetic colour used in the turmeric. The variety of synthetic colours, developed in the middle of the nineteenth century,^{10, 11}.Turmeric may be adulterated with, Lead chromate which can cause anemia, paralyses, mental retardation and brain damage in children and abortion in pregnant women (Wikipedia). Validation result show adulteration of horse dung; or synthetic colour in red chili in were all samples while Ararote and synthetic colour were present in Turmeric in all samples.

e. Impact on health

Bad food practices often linked with various food borne diseases. Those at greatest risk for food borne illnesses are the elderly, pregnant women, infants and young children, and those with compromised immune systems^{12, 13}. One in every five individuals in the U.S.A. falls into one of these at-risk categories. The elderly are a group particularly vulnerable to foodborne illnesses

¹⁰ Achaya, K. T. Every day Indian Processed Foods. P. Delhi: National Book Trust, 1984; pp.154-162.

¹¹ Rao, B.S.N. Food additives – consumer's viewpoint. Indian Food Industry, 1990; 9: 14–19.

¹² Mead, P. S., Slutsker, L., Dietz, V., McCaig, L. F., Bresee, J. S., & Shapiro, C. Food-related illness and death in the United States. Emerging Infectious Diseases, 1999; 5(5), 607–625.

¹³ Fischer, A.R.H., De Jong A.E.I., De Jonge, R., Frewer, L.J. & Nauta, M.J. Improving food safety in the domestic environment: The need for a transdisciplinary approach. Risk Anal. 2005; 25: 503–517.

and death¹⁴, such as morbidity and mortality from foodborne-induced gastroenteritis. Many elderly live in assisted living facilities where food is provided by caregivers. As described by Linton et al¹⁵, there are many food handling errors that can cause food borne illness in food retail establishments, including poor personal hygiene and cross contamination.

f. Role of media

According to Kishtwaria, et al which concluded that mass media can effectively be used to promote information and awareness especially to educated respondents belonging to middle income group. Mass- media can also play an effective role for masses belonging to different socio- economic categories also. Parameshwar¹⁶ analyzed that unless consumer awareness' is created, the efforts of the government and voluntary organizations can't achieve the desired results¹⁷.

h. Food standards

Survey show 83% know about food standards (>0.05) such as ISI , FAO , AGMARK (<0.05). Statistically observed chi (χ^2) $>$ expected on the basis null hypothesis was rejected that people have good understanding about the food standards.

CONCLUSION

The young people are there in majority and linked with mostly buying of food materials not directly linked with handling of food materials but like tasty food, healthy choice in food comes next, and like to purchase it from stockiest. The urban people of Salem where people in majority are Hindu mostly have income range medium and lives in nuclear family and male and female have 40-50% education. Majority of people used to see TV program Test show all type of adulterations in cereals and pulses with mixing of lathyrus, or yellow color in Aarahar dal and

¹⁴ Smith, J.L. Foodborne illness in the elderly . J. Food Prot.1998: 61;1229-1239.

¹⁵ Linton, R.H., Mcswane, D.Z., Woodley , C.D. A comparison of perspectives about the critical areas of knowledge for safe food handling in food service establishments. J. Environ. Health, 1998;60(8), 8-15.

¹⁶ Parmeshwar, K.R. Protect Consumer against quality tricksters. Yojana, 1988 32(5), 29-31 The Tribune News Service. May 16, 1988.

¹⁷ S R Bhatt, S M Bhatt, A SINGH Impact analysis of knowledge practice for food safety in urban area of Varanasi. Pak. J. Nutrition, 2010: 9(2) 186-190.

also adulteration in mustard oil, ghee and in spices, sand in red chili powder or there was addition of yellow colour or mixing of ararote in turmeric powder. Majority of the people agreed that they can complain against adulteration and accept that they never filed any complaint against the shopkeeper & never took action against shopkeeper.

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