CONSUMERS' CONFIDENCE LEVEL IN FOOD SAFETY AND QUALITY MARKS AND ITS IMPACT ON SAFE AND UNSAFE FOOD

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Abstract

Food safety plays dominant role food borne diseases. Hygienic practices and quality food products are two main factors influencing the food borne diseases in India. The main aim of the study is to analyse the confidence levels of the consumers in food safety and quality marks of Agmark, FPO and ISI marks of the products. This study mainly explains how the consumers prefer quality products without adulteration. The Chi-square test, t-test and Correlation statistics are used to get the adequate results of the study. Milk and milk products, mineral water and fruits and vegetables influence the high safety factor in high priced products. High priced products have high safety value. There is a relationship in awareness of checking quality marks and the respondents in different districts. Hence, the respondents in different districts vary in their awareness of checking quality marks. The different levels of income do not cause any change in the behavior of the respondents and the awareness about the different quality marks of products. The low and high income groups of respondents have awareness of different quality marks of products.

Key words: Food safety, Quality marks, Confidence level.

INTRODUCTION

Food safety is a wide spread public health problem globally. A significant proportion of food borne illnesses arise from unsafe food handling practices in the home kitchen. It has been estimated that in 2000 alone, 2.1 million people died of diarrheal diseases (WHO, 2006). So unique quality marks are given to ensure the quality of the products. These certification symbols are provided by the government and other respective organizations to ensure the quality of the products (WHO, 2008). Consumers check food labels, but they are not aware of quality symbols like ISI (Bureau of Indian Standards), FPO (Fruit Products Order), and AGMARK (Agriculture Marking and Grading Act). People trust is placed more in brand names/expensive packaged food and are less careful about snack food safety. Knowledge of food safety among consumers has various dimensions. Many mothers are aware of the common food adulterants but do not bother to complain or take action.

PROBLEM STATEMENT AND PURPOSE OF THE STUDY

In spite of consumers' whole hearted preparation of food in the most possible hygienic way to protect their family health, food borne diseases exist in both developing and developed countries. As per the WHO report and previous studies, consumers are suffered from food borne diseases due to food prepared at home. All consumers and food handlers take utmost care in food safety, hygienic and hand washing practices to avoid food borne diseases. But still food borne problems arise and exist in India. The question now is "Why food borne diseases are high in India, eventhough the food is prepared by the food handlers (mothers) with proper care and stored in traditional, hygienic and scientific methods at home?" Hence, the researcher has made an attempt to find out the existing awareness and attitudes of consumers in food handling practices and confidence level in quality marks to identify the causes and effects of food borne diseases in Tamil Nadu.

OBJECTIVES OF THE STUDY

1. To analyze awareness and attitudes of consumers about food safety and its impact on food borne diseases.
2. To test the consumers' confidence level in food safety and quality marks and its relationship with safe and unsafe food.
3. To identify the personal hygienic practices and hand washing practices of consumers and its cause and effect in food safety.

HYPOTHESES

Ho1: Awareness of food safety and complaints made about food adulteration entirely depend on the demographic profile of consumers.

Ho2: Profiles of consumers do not influence the prevalence of food borne illnesses.

SIGNIFICANCE OF THE STUDY

1. To identify the exact factors influencing food borne diseases.
2. To help the consumers to adopt food safety practices so as to safeguard the health of their families.
3. This study helps to avoid food borne diseases among vulnerable sections of the society, especially children and pregnant women.
4. Both central and state governments can utilize this study to understand the reasons for food borne diseases.

CONFIDENCE LEVEL IN DIFFERENT KINDS OF FOOD

Food prepared outside the home constitutes a risk factor for acquiring food borne illness. Several studies have identified that the food prepared and purchased outside the home carry greater risk factors (Laura, et al., 2005). In Table 1 the mineral water, milk and milk products, vegetarian and non vegetarian food are analyzed to find out their correlation.

Table 1 Correlation coefficient - Confidence level in different types of food

		Mineral Water	Milk and Milk Products	Vegetarian Food	Non Vegetarian Food
Mineral Water	Pearson Correlation	1	.316**	.227**	.215**
	P value		.000	.000	.000
	Respondents		806	806	806
Milk and Milk Products	Pearson Correlation		1	.393**	.273**
	P value			.000	.000
	Respondents			806	806
Vegetarian Food	Pearson Correlation			1	.189**
	P value				.000
	Respondents				806
Non Vegetarian Food	Pearson Correlation				1
	P value				
	Respondents				

As it is clear from Table 1 all the background variables have a significant correlation with all the dependent variables. All the variables are positively correlated with the confidence level of food safety. It should be noted that the dependent variables in the equations are strongly correlated with most of the independent variables.

CONFIDENCE IN HIGH PRICED FOOD ITEMS

FSIS (2011) reported that unwashed fruits and vegetables cause food borne illness. Fruits and vegetables should be washed well before consumption because they might contain bacteria and virus which could lead to food borne diseases. Regression has been used to analyze the confidence level of food safety at high priced food items among respondents.

Table 2 Confidence in food safety and high priced food items – Regression Analysis

Variables		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.204	.222		9.907	.000
2	Mineral Water	.261	.043	.227	6.041	.000
3	Fruits and Vegetables	-.029	.063	-.021	-.466	.641
4	Milk and Milk Products	.140	.055	.109	2.567	.010
5	R^2 –.073					
6	F statistics(3, 805) 21.068*					

*Significant at 5% level

Mineral water (X_1) co-efficient (0.261) represents positive effect on high safety in high priced product. Similarly, the co-efficient of X_2 is -0.029 represents negative effect on the fruits and vegetables. The co-efficient of X_3 0.140, represents high positive correlation. Finally, milk and milk products, mineral water and fruits and vegetables influence the high safety factor in high priced products. This analysis clearly shows that the high priced products have high safety value.

AWARENESS IN CHECKING QUALITY MARKS

South Indian women see the labels on packed foods for date of manufacturing and 'best before date', but many of them are not aware of quality symbols like ISI, AGMARK and FPO (Sudershan et al., 2008)

Table 3 Education of respondents and their awareness in checking quality marks

Ho the education level of respondents has no relationship with their awareness of checking quality marks

	Value	df	P value
Pearson Chi-Square	101.822[a]	2	.000*
Likelihood Ratio	109.065	2	.000
Linear-by-Linear Association	101.630	1	.000
N of Valid Cases	806		

*Significant at 5% level

This table reveals the relationship between the education of the respondents and their awareness in checking quality marks of products. As the null hypothesis is rejected, there is a significant relationship between the education of the respondents and their awareness in checking quality marks of products. Hence, it is concluded that the education of respondents influence the awareness in checking quality marks of products. The high level educated respondents give more importance to checking the quality marks of products. The illiterate respondents give low importance to checking quality marks of products.

AWARENESS OF CHECKING QUALITY MARKS AND AGE

Food labeling is a tool for consumer to make healthy and informed choices which is their right and responsibility to read it. But according to one survey, only 59% of consumers are able to understand it (Nielsen 2005). In Table 6 the age of the respondents is related to their awareness of checking quality marks of products. Chi-square test has been used to analyze the association in the age of the respondents and awareness of checking quality marks of products.

Table 4 Awareness of checking quality marks in different age groups

Ho Age of respondents does not influence the awareness of checking quality marks of products.

	Value	df	P value
Pearson Chi-Square	34.288[a]	5	.000*
Likelihood Ratio	34.688	5	.000
Linear-by-Linear Association	31.941	1	.000
N of Valid Cases	806		

This table demonstrates the relationship between age of the respondents and awareness of checking quality marks of products. As per the rejection of null hypothesis, there is a significant relationship between the age of the respondents and their attitudes towards awareness in checking quality marks of products. It shows that the awareness of checking quality marks of products depends upon the age of the respondents. The awareness of checking quality marks of products is based on their age.

OCCUPATION AND AWARENESS IN CHECKING QUALITY MARKS

Different quality marks are given to ensure the quality of the products. The layman can easily identify quality products with common quality marks such as ISI, FPO and AGMARK. These certification marks are provided by the government and other recognized organizations to ensure the quality of the products.

Table 5 Occupation and awareness in checking quality marks

Ho: Awareness in checking quality marks of products does not vary with the respondents' occupation levels.

	Value	df	P value
Pearson Chi-Square	50.967[a]	3	.000*
Likelihood Ratio	51.066	3	.000
Linear-by-Linear Association	4.660	1	.031
N of Valid Cases	806		

The different occupations of the respondents in checking quality marks of the product is proved with the chi-square value (50.967). As per the rejection of null hypothesis, there is a significant relationship between respondents' occupation and their awareness in checking quality marks of products. The awareness in checking quality marks of products is based on the occupation of the respondents.

INCOME AND AWARENESS OF CHECKING QUALITY MARKS

Consumers do not have enough awareness about checking of food safety labels and symbols on the food products while purchasing food item for their families (Scuba Rao et al., 2009). In this table, Chi-square test has been used to find out the association between income and the awareness about checking quality marks of products.

Table 6 Association of income and awareness of checking quality marks

Levels of income do not make any change in the awareness of checking quality marks of products.

	Value	df	P value
Pearson Chi-Square	29.625[a]	3	.000*
Likelihood Ratio	30.727	3	.000
Linear-by-Linear Association	23.424	1	.000
N of Valid Cases	280		

*Significant at 5% level

Table analyses the association between the income of the respondents and awareness about checking quality marks of products. As per the rejection of null hypothesis, there is a relationship between the awareness about checking quality marks of products and the

different levels of income of the respondents. This analysis concludes that the different levels of income groups of the respondents cause changes in their attitudes regarding checking quality marks of the products. The low and high income group's respondents vary in checking the quality marks of products.

INCOME AND AWARENESS OF QUALITY MARKS

Table 6 Income and awareness of quality marks of products

Ho the different levels of income do not cause any change in the awareness about the different quality marks of products.

		N	$\bar{X}$		F value	P value
AGMARK	Below Rs. 5000	72	3.60	1.642	1.131	.338*
	Rs. 5001 - Rs.15000	62	3.82	1.466		
	Rs. 15001- Rs. 25000	12	4.08	1.379		
	Above Rs. 25000	7	4.57	1.134		
ISI	Below Rs. 5000	72	3.35	1.620	1.072	.363*
	Rs. 5001 - Rs.15000	62	3.52	1.468		
	Rs. 15001- Rs. 25000	12	4.08	1.311		
	Above Rs. 25000	7	4.00	1.414		
FPO	Below Rs. 5000	72	3.01	1.716	1.081	.359*
	Rs. 5001 - Rs.15000	62	2.97	1.557		
	Rs. 15001- Rs. 25000	12	3.83	1.403		
	Above Rs. 25000	7	3.43	1.988		

*Significant at 5% level

As per the acceptance of null hypothesis, there is no relationship between the awareness about different quality marks of products and different levels of income. This analysis concludes that the different levels of income do not cause any change in the behavior of the respondents and the awareness about the different quality marks of products. The low and high income groups of respondents have awareness of different quality marks of products.

DISTRICT AND AWARENESS IN CHECKING OF QUALITY MARKS

In the market place a consumer is often cheated in terms of quantity and is thereby deprived of getting full value for money. It is also estimated that consumers are losing at least Rs. 2,000 cores every year, infect they are paying Rs.1, 600 cores more than they should because of defective weight and measures (Gandhi, 1994).

Table 7 Influence of district wise awareness in checking of quality Marks

Ho: Awareness in checking quality marks does not differ in different districts of respondents.

	Value	df	P value
Pearson Chi-Square	36.383[a]	3	.000*
Likelihood Ratio	37.510	3	.000
Linear-by-Linear Association	10.684	1	.001
N of Valid Cases	806		

*Significant at 5% level

This study shows the awareness in checking quality marks in different districts of the respondents. As per the rejection of null hypothesis, there is a relationship in awareness of checking quality marks and the respondents in different districts. Hence, the respondents in different districts vary in their awareness of checking quality marks.

FINDINGS AND SUGGESTION OF THE STUDY

1. Milk and milk products, mineral water and fruits and vegetables influence the high safety factor in high priced products.

The high priced products have high safety value.

2. There is a relationship in awareness of checking quality marks and the respondents in different districts. Different districts vary in their awareness of checking quality marks. The consumers should thoroughly check the identification marks of AGMARK, FPO and ISI marks of the products.

3. The different levels of income do not cause any change in the behavior of the respondents and the awareness about the different quality marks of products. The low and high income groups of respondents have awareness of different quality marks of products. All consumers irrespective of their income give importance to the quality marks.

4. There is a significant relationship between respondents' occupation and their awareness in checking quality marks of products. The awareness in checking quality marks of products is based on the occupation of the respondents.

5. The awareness of checking quality marks of products depends upon the age of the respondents. The awareness of checking quality marks of products is based on their age. The family should purchase the products by the grown up children or any one of the family member.

6. The education of respondents influences the awareness in checking quality marks of products. The high level educated respondents give more importance to checking the quality marks of products. The illiterate respondents give low importance to checking quality marks of products. The Government should insist the shop keeper to supply quality product to all customers irrespective of their age.

CONCLUSION

Many people are poisoned every day by consuming food produced in unhygienic environments, without sufficient knowledge or training in hygiene, using unclean water or due to inefficient storage conditions, lack of cleaning or mixing of chemicals with foodstuffs. Food can be mishandled at many places during food preparation, handling and storage. Several studies indicate that consumers have inadequate knowledge about procedures needed to prevent food borne illnesses at home. The prevention of food borne illnesses requires educating food consumers on safe food handling practices. Quality marks plays important roles in the market. It is the duty of the consumers to see the quality marks of AGMARK, FPO and ISI. The consumers can prevent adulteration and inferiorier quality to the product wants they purchase the quality marked product. Hence, the quality marks plays important role in quality, quantity and rate of the product.