



Major sources of food safety information; a Case study on consumers in Lagos, Nigeria

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ABSTRACT

Unsafe food propels a cyclical process of disease formation and malnutrition, especially in infants, young children, the elderly, and the sick. To ensure food safety, consumers are advised to pay close attention to the type and nature of food consumed. This study, therefore, investigates the trusted sources of information on food safety; identifies the major food safety information sought by consumers; and the factors that motivate consumers to read food safety information. Primary data were obtained with the use of pretested structured questionnaire in an interview schedule. A total of 220 consumers of pre-packaged food were used for the study. The data were analyzed using descriptive statistics and Likert scale. The results showed that food labels were the fifth most trusted source of information on food after doctors, family, friends and colleagues, television and the internet. It also showed that consumers look out for the expiry date of the product before any other information and product comparison is the major motivation for individuals to read food labels. Therefore, we recommend that food regulatory bodies should ensure the enactment of better regulations on food labeling that can help improve consumer confidence in the content of food labels; and create awareness programs that encourage food consumers to pay closer attention to the use of food labels beyond just the product name and expiry date as a food label.

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1. Introduction

In recent years, considerable attention is being paid to the concept of food safety as an integral component of food security. This is because unsafe food propels a cyclical process of disease formation and malnutrition, especially in infants, young children, the elderly, and the sick. There is a growing body of literature that presents the importance of paying attention to food safety in the pursuit of food security. Some literature focused on the increased movement of people, live animals, and food products across borders especially in trade from developing to developed countries; growing rate of urbanization in developing countries; changes in food handling and consumption; and the emergence of new or antibiotic-resistant pathogens all contribute as primary reasons to ensure food safety (1, 2). Other

literature has paid attention to food safety as a public health issue, the impact of unsafe food on public health, and the need to update national food laws to address the risk of unsafe foods (3, 4). Considering the importance food labels to ensuring the consumption of safe food by consumers, plenty of previous researches on food safety focused on the use of food labels and their information (5, 6, 7, 8). Together these studies show that there are disparities across different countries on the most trusted sources of information across different climes and what food consumers seek from food labels. While some studies (5, 6) revealed food labels as the most reliable source of information among consumers in China, another study (7) revealed that family doctors were the most trusted source in United Arab Emirate.

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In Nigeria, the National Agency for Food and Drug Administration and Control is empowered by law to bring up standards for food production as well as laws against food commodities that are deleterious to human health. Legislation pertaining to food safety information to be contained in labels was set out by NAFDAC to ensure consumers are provided sufficient and useful information concerning the food products they intend to consume. Although there are evidence of the importance of food labels in informing purchasing behavior (9), only a few studies have shown if it is one of the most trusted sources of food safety information among Nigerian consumers.

Therefore, this study investigates the trusted sources of information on food safety; identifies the major food safety information sought by consumers; and the factors that motivate consumers to read food safety information.

2. Materials and methods

2.1. Study Area

This study was conducted in Lagos state, southwest Nigeria; located on longitude 2°42'–4°20' East and latitude 6°22'–6°42' North (10). Lagos, according to world population review website, is the largest city in Africa and Nigeria population commission estimates its population to be about 21 million people (11).

Lagos state was selected for this study due to its central role in Nigeria's economic and social development. This is adduced to the presence of both seaport and airport which has fostered international trade. It also has high purchasing power (12).

2.2. Source of data and sampling procedure

Primary data were obtained via the use of a structured questionnaire. This study was carried out in Lagos state by eliciting information from pre-packaged food shoppers. A two-stage sampling technique was used. The first involved the random selection of two (2) shopping (Shoprite) malls from a list of five (5) shopping (Shoprite) malls across Lagos state. The second stage was the systematic selection of every fifth pre-packaged food shopper. A total of 220 respondents were selected for the study. The data were collected from respondents using the structured questionnaire in an interview schedule.

2.3. Data analysis

2.3.1. Likert scale

This was used to elicit objectives one, two, and three. The scale ranging from 'never (1)' to 'always (5)' was used to measure the use of those common information cues printed on the food label and another scale ranging from 'Always (3)' to 'Never (1)' was used to elicit the level of use of those information cues.

A five-point Likert scale was also used to obtain the most trusted sources of information. A list containing major sources of food safety information was provided and the respondents were asked to select their responses on a Likert scale of 1-5, where '1 = No trust,' '2 = don't know,' '3 = some trust,' '4 = much trust,' and '5 = absolute trust.

Finally, the factors that motivate consumers to read food safety information was measured using a 3-point Likert scale which ranges from 'Seldom (1)' to 'always (3).' The information collected using the Likert scale were then computed to obtain the mean score for each item. The items having a mean score greater or equal to 3.0 on a scale of 5.0 (greater or equal to 2.0 on a scale of 3.0) are selected as important items.

3. Results

It describes the socio-economic characteristics of the respondents; their trusted source(s) of information on food safety; the major food safety information sought by consumers before and/or during food purchases; and the factors motivating consumers to read food safety information on food labels.

3.1. Socio-economic characteristics of Respondents

A total of 220 respondents took part in this study as shown in table 1. The study revealed that males make up a larger proportion (58.2%) of the pre-packaged food shoppers interviewed.

The age distribution of the respondents is within the youth bracket with the largest proportion (61.6%) between the ages of 19 and 29 (both inclusive) years. The study also revealed that about 99% of the respondents had at least a secondary education with 53.5% either presently in a tertiary institution or have completed tertiary education. This is reflective of the high literacy rate in Lagos state. It also revealed that 51.6% of the respondents were technical and professional workers and about 34.4% unemployed.

The frequency of food shopping could influence the level of food label use, as a result, it was measured in this study. About 29.6% of the respondents claimed to go food shopping only at least twice a week.

3.2. Trusted Sources of Information on Food

Table 1. Socio-economic Characteristics of Respondents

Variable	Frequency	Percent (%)
Sex of consumer		
Female	92	41.6
Male	128	57.9
Age distribution of consumer		
<= 18	19	8.6
19 - 29	130	58.8
30 - 40	54	24.4
41 - 51	7	3.2
52+	1	0.5
Marital status of consumer		
Single	181	81.9
Married	39	17.6
Educational status of consumer		
Primary education	2	0.9
Secondary education	30	13.6
Tertiary education	117	52.9
Postgraduate education	70	31.7
Occupation of consumer		
Unemployed	76	34.4
Technical and Professional Workers	113	51.1
Sales workers	2	0.9
Transport workers	6	2.7
Agricultural workers	1	0.5
Artisans and Craftsmen	18	8.1
Administrative and managerial workers	3	1.4
Frequency of food shopping		
Monthly	61	27.6
Fortnightly	56	25.3
At least twice a week	64	29.0
Daily	36	16.3
Total	217	98.2

Source: Authors' computation from the field survey, 2017

Table 2 shows the trusted sources of information on food safety. The study revealed that all eight (8) suggested forms of food safety information

Table 2. Trusted Sources of Information on Food

Source of Information	Mean	Rank
Doctors	4.18	1 st
Family, friends and colleague	3.57	2 nd
Television	3.33	3 rd
Internet	3.31	4 th
Food label	3.14	5 th
Government publication	3.10	6 th
Radio	3.03	7 th
Newspapers	3.02	8 th

Source: Authors' computation from the field survey, 2017

disseminator were perceived as valid sources but the respondents trusted doctors (4.18) the most. The result further revealed that newspapers, radio and government publications do not engender much of the people's trust for the dissemination of food safety information.

3.3. Major Information Sought During Purchases

The knowledge of the information sought by pre-packaged food consumers could give one a clue of what is most important to them amongst the various information cues in food labels. Table 3 shows the contents of the food labels most frequently checked and used during food purchases in the study area.

All the information cues checked and used by respondents in informing purchasing decisions include expiry/best before date, product name and date of manufacture.

Table 3. Information cue consumers seek the most

Information cue	Awareness		Use	
	Mean	Rank	Mean	Rank
Expire/best before date	4.61	1 st	2.76	1 st
Product name	4.55	2 nd	2.64	2 nd
Date of Manufacture	4.50	3 rd	2.64	2 nd
Brand name	4.32	4 th	2.51	4 th
Warning statement	4.09	5 th	2.33	5 th
Direction for use/storage	3.83	6 th	2.29	6 th
Health/nutrition claims	3.74	7 th	2.25	7 th
Ingredient list	3.40	8 th	2.12	8 th
Information about allergens	3.36	9 th	2.11	9 th
*Nutrition panel	3.35	10 th		
*Country of origin	3.29	11 th		
*Food additives	3.22	12 th		
Name of manufacturer	3.11	13 th	2.05	10 th
*Net quantity	3.02	14 th		

* These information cues had mean <2.00, hence were considered unimportant

Source: Authors' computation from the field survey, 2017

3.4. Factors Motivating Consumers to read Food Safety Information

This study revealed that different factors motivate pre-packaged food consumers to read food safety labels. As shown in table 4, the major motivations for reading food labels are the comparison of products, and the state of health of consumers. The table also revealed that, consumers do not hold consider the family's dietary habit as important in determining their use of food labels during purchases.

4. Discussion

From table 2, it is important to note that the respondents trusted food labels only after doctors,

Table 4. Factors motivating the use of information on Food Labels

Factors	Mean	Rank
Product comparison	2.43	1 st
Health concerns	2.40	2 nd
Curiosity	2.38	3 rd
Nutrition counseling	2.20	4 th
My dietary habit	2.02	5 th
Family dietary habit	1.95	

Source: Authors' computation from the field survey, 2017

family, friends and colleagues, television and the internet. This implies doctors are the most trusted of all the potential sources of information on food which is somewhat different from the findings of other studies (5, 6); they found out that food labels were the most trusted sources. The level of trust in doctors reflects the training doctors are given as health practitioners and this was also revealed in a study conducted in UAE (7). With regards to the low level of trust in newspapers, radio and government publications, it would be more effective to provide information on food safety through doctors, and broadcasting food safety awareness campaigns on televisions, then using these other avenues in urban areas due to the training accorded doctors and the relative mistrust for information on televisions.

As revealed in table 3, consumers pay more attention to the expiry/best before date, product name, and date of manufacture of most prepackaged food products than any other information on food labels. This conforms to the findings of other studies (8, 9) which revealed consumers read labels basically for the date of expiration and nutritional contents. The frequency of checking and using these information cues could be due to the consciousness of consumers about the negative implication of consuming expired food products. Hence supplying fresh commodities would enhance the success of producers. The second most important cue checked is the product name, due to the presence of competition among firms in the production of most food products in the market. In contrast, the least frequently checked cues are the net quantity and name of the manufacturer. Consumers are usually familiar with the sizes of the commodities they consume and they scarcely vary, hence checking again could be seen as a waste of time. That could explain why they usually do not seek the net quantity of the commodities purchased frequently. As for the name of the manufacturer, most pre-packaged food consumers believe the brand name is sufficient to provide

information on the name of manufacturer, therefore checking the manufacturer's name is assumed to be counterintuitive. For the cues least utilized in informing purchasing decisions, consumers do not pay attention to net quantity, country of origin, food additives, and nutrition panel.

As revealed in table 4, the major reason consumers read food labels to compare two or more similar products before, or during purchases, is product comparison. This is usually the case because consumers usually want to have full information about what they are consuming and how it fares with other related commodities; a major characteristic of consumer behavior. This is in concomitance with the finding of Darkwa & Affram (13) in Ghana. Another important motivation is the health concerns of the consumer. Philip, McPherson, & Fround (14) and Sunelle, Beer, & Larney (15) showed similar result and attributed it to the belief that the health of a man is closely related to the quality of the food that he eats. In contrast, consumers do not consider their family dietary habit as enough reason to read food labels. This might be connected to the fact that most of the respondents in the study were single, and therefore make purchasing decisions for personal consumption as against family consumption which is common amidst married consumers. As a result, consumers' health concerns hold more sway in motivating the use of food labels among single consumers than family health concerns.

5. Conclusion

The research reveals that the most trusted source of information on food is the doctors, with food label on a distant fifth behind friend, families and colleagues, television and the internet. The findings also showed that the average food shopper looks out for the expiry date of the product before any other information and is motivated to read food labels when it involves product comparison.

Based on the findings of this research, it can be concluded that a larger percentage of the food shoppers do not accord much trust to food labels as a source of food safety information when compared with doctors, friends and family, internet and/or television.

The following recommendations are made to policymakers and other relevant stakeholders based on the findings of the research;

Food regulatory bodies should ensure the enactment of better regulations on food labeling that can help improve consumer confidence in the content of food labels. This would improve upon the use of food safety information on food labels.

Educational and awareness programs encouraging food consumers to pay closer attention to the use of food labels beyond just the product name and expiry date as food labels. This would help maximize the use of the contents of food labels especially the health and nutrition claims as consumers also check labels for health reasons.

Conflict of interest

The authors have no conflict of interest.

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