

IRAQI CONSUMER AWARENESS OFF THE RISK ASSOCIATED WITH CONSUMING CANNED FOOD

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ABSTRACT

The aim of this research was to indicate the opinion of the Iraqi consumer awareness of the risks associated with consuming canned food, the questionnaire was included 20 questions for label information, consumer culture, shopping, marketing, awareness and knowledge as a tool to survey the opinions of 300 consumers in Baghdad, the data was analyzed by using percentage, weighted mean, and weight percent, the results obtained showed that the Iraqi consumer need more information, training and guidance programs in food safety handling issue for canned food, especially in analysis of label information and growing of consumer culture for shopping, right marketing, awareness and knowledge.

Keywords: Consumer culture, quality and food safety, canned foods.

وعي المستهلك العراقي تجاه المخاطر المرتبطة باستهلاك الأغذية المعلبة

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الخلاصة

هدف هذا البحث إلى بيان وعي المستهلك العراقي تجاه المخاطر المرتبطة باستهلاك الأغذية المعلبة، وشمل الاستبيان المعد لهذا الغرض 20 سؤالاً لبطاقة المعلومات وثقافة الاستهلاك والتسويق والتسويق والوعي والمعرفة كأداة لاستطلاع آراء 300 مستهلك في مدينة بغداد، وجرى تحليل البيانات باستخدام النسب المئوية والوسط الحسابي المرجح والوزن المنوي، وأظهرت النتائج المستحصل عليها أن المستهلك العراقي يحتاج إلى مزيد من المعلومات وبرامج التدريب والإرشاد في موضوع سلامة الأغذية للأغذية المعلبة، لا سيما في تحليل معلومات الملصق وتنمية الثقافة الاستهلاكية الخاصة بالتسويق والتسويق الصحيح والوعي والمعرفة. الكلمات المفتاحية: ثقافة الاستهلاك، الجودة وسلامة الغذاء، الأغذية المعلبة.

INTRODUCTION

Canned food industry in the world represents an important source of income and important economic activity on which the economy is based (Alsoufi *et al.*, 2020; van der Berg 2016). Generally, the aim of this industry aims to provide the needs and consumer wishes, extending shelf life, achieve self-sufficiency and food security, job opportunities, operating of all public and private sectors (Alsoufi *et al.*, 2017; Ojha *et al.*, 2015). Therefore, this industry must save of quality of food in accordance with the depended on standards specifications, because quality considered as the essential standard of food safety, consumers represent importance in this industry due they are end beneficiary, the opinion of consumer represent the decisive factor that determines of acceptability of these products for consumption (Alsoufi 2021; Hussein & Alsoufi 2013). So, this article aimed to know Iraqi consumer awareness of the risks associated with consuming canned food, including research methodology, theoretical framing, analysis and discussion of results (label information, consumer culture, shopping, marketing, awareness and knowledge).

FIRST TOPIC: RESEARCH METHODOLOGY

First: Research problem

As a result of provides different type of imported canned food in the Iraqi markets which may cause some health risks to the consumers, the research problem is in the following questions:

1. Consumer opinion of possible risk from canned foods?
2. Is consumer could to safely detail with canned food?
3. Does consumer have good consumption culture?

Second: Importance research

The consumption of canned food is one of the consumption types that have spread in the Iraqi society as a result of the increase in the population and a change in the consumption type of the Iraqi individual and his tendency to consume processed food products, accompanied by the openness of local markets and the high import rates of various food products in recent years, as well as the noticeable decline in the field of food industries this led to the local markets witnessing a clear dumping of imported food products from several origins, which began to flow into Iraq in a massive way that is not commensurate with the capabilities of the regulatory bodies, which have become limited in their coverage of these commodities, which led to the emergence of many food products.

Third: Objective research

The research aims to determine the awareness of the Iraqi consumer towards the risks associated with consuming canned food.

Fourth: Method research

Analytical approach descriptive for information was adopted related to the research variables by conducting an opinion poll for a specific sample and then interpreting the data obtained and drawing conclusions from it (Alsoufi 2021).

Fifth: Limits research

1. Time limits: The period for completing the research extended from March 1, 2021, to November 1, 2021.
2. Place limits: the questionnaire was applied in the of Baghdad, Iraq.

3. Scientific limits: The research focused on the elements of label information, consumer culture, shopping, marketing, awareness and knowledge.

Sixth: Sample Research

The study sample was 300 persons were randomly selected from Baghdad, Iraq, they represented the opinion of the Iraqi consumer awareness of the risks associated with consuming canned food.

Seventh: Research tool

The questionnaire was adopted as a tool to collect data related to the research variables. It consisted of 20 questions, 7 for label information, 6 for consumer culture, 3 for shopping and marketing, 4 for awareness and knowledge. The fifth Likert scale was used (strongly agree, agree, neutral, disagree, strongly disagree) by weights (5, 4, 3, 2 and 1) respectively as flowering of **Alsoufi (2021)**, the answer to the questionnaire questions was as shown in (Table 1, 2, 3 and 4).

Eighth: Methods of statistical Methods

Percentage, arithmetic mean, hypothetical mean and weight percent were used to interpret the results as a described by **Alsoufi (2021)**.

SECOND TOPIC: THEORETICAL FRAMING

The method of food consumption varies according to the consumer's orientations, requirements, choices and preferences (**Sachithananthan 2017**), and as a result of the change in the consumption type in society in general and consumers' tendency to obtain canned food and increase its use significantly, the global production of this type of food has increased to provide the increasing demand for it by consumers (**Seetaramaiah et al., 2011**), and due to the increase in consumption, some diseases that are related to the consumption of canned food were observed due to the preservatives they contain or because the food itself was spoiled as a result of bad handling and storage (**Legesse et al., 2016; Abdulmumeen et al., 2012**), as is the case in bacterial food poisoning (**Demirel Zorba & Kaptan 2011**), obesity (**Niemeier et al., 2006**), gastrointestinal disease (**Keszei et al., 2013**), ADHD in children (**McCann et al., 2007**), food allergies (**Boga & Binokay 2010**). Numerous studies have shown that consumers are unaware of the risks of consumption of these foods (**Aoki et al., 2010**). Consumers with low educational levels are more exposed to the risks of these foods as a result of not having the consumption culture to deal with the potential risks of this type of food (**Wu et al., 2013**). The method of storage and marketing for a canned food ensures that this food reaches the consumer safely by following the food safety standards in production, storage and marketing, the food label information is one of the factors that help the consumer to take the decision to purchase and consumption, as it must contain all the information that helps the consumer to know ingredients, preservatives, storage conditions, shelf life, producing company, batch number and warning signs (**Wang et al., 2008**). In order to ensure the prevention of potential risks for these foods, it is necessary to grow a consumption culture for the consumer to enable him to know how to use this information with more effectively and easily, and this is achieved through the authorities and the media implementing special programs to provide safe consumption guidelines for consumers (**Coveney 2007**).

**THIRD TOPIC: ANALYZE AND DISCUSS RESEARCH RESULTS****Percentage, arithmetic mean, hypothetical mean and weight percent Analysis of Research Variables****First: Demographic variables**

The obtained results showed that the gender number of the sample was distributed by 144 females (48%) and 156 males (52%), and the age groups covered by the questionnaire ranged from 20 to more than 59 years, who were distributed by 33 responses by (11 %) for the age group 20-29 years, with 78 answers (26%) for the age group 39-30 years, 96 answers (32%) for the age group 40-49 years, and 93 answers (31%) for the age group 50 -59 years.

Second: Research variables

The results obtained through the questionnaire prepared for this purpose show awareness of Iraqi consumer of the risks associated with consuming canned food through the questionnaire's axes, which included the consumer's awareness of the label information, consumer culture, shopping, marketing, awareness and knowledge.

1. Label information

The average of label information showed that the arithmetic mean and weight percent (%) was 3.28 and 65.6%, respectively, that ensured samples neutral (≥ 3) with paragraphs of Label information (Table 1). The degree of samples response was strongly agreed (>3) with interesting of consumer to reading the expiration date (production and expiry) (Question No. 1), the degree of samples response was agreeing (>3) with ability of consumer to learns about the storage conditions and warning signs and compares them with the display method (Question No. 5) and ability of consumer to recognizes the language of the card and makes sure that it is written in Arabic (Question No. 6), while they are neutral (≥ 3) with the reading the list of ingredients on the information label of canned food (Question No. 2) and the checking the name of the producing company and search for it on the internet to ensure its reliability (Question No. 3), on the other hand, the degree of samples response was don't agree (<3) with the sure of the batch number presence (Question No. 4), while the degree of samples response was strongly don't agree (<3) with the consumer knowing that all of what was mentioned in the above (underlined) if it is not mentioned in the information label for canned food, then this food is considered to be in violation of the terms of the standard specification and should not be consumed (Question No. 5).

Table (1): Analysis of label information variable.

Question No.	Question	Degree of response					Arithmetic mean	Arithmetic mean relation with		Weight percent (%)
		Strongly agree	Agree	Neutral	Don't agree	Strongly don't agree		Degree of response	hypothetical mean	
		5	4	3	2	1				
Label information										
1	The consumer is interested in reading the expiration date (production and expiry)	193	79	28	0	0	4.55	Strongly agree	>3	91
2	The consumer read the list of ingredients on the information label of canned food	3	138	83	48	27	3.13	Neutral	≥3	62.6
3	The consumer check the name of the producing company and search for it on the internet to ensure its reliability	5	143	92	31	29	3.21	Neutral	≥3	64.2
4	The consumer making sure of the batch number presence	1	97	27	118	57	2.23	Don't agree	<3	44.6
5	The consumer learns about the storage conditions and warning signs and compares them with the display method	33	148	78	23	18	3.52	Agree	>3	70.4
6	The consumer recognizes the language of the card and makes sure that it is written in Arabic	37	196	35	29	3	3.78	Agree	>3	75.6
7	The consumer knows that all of what was mentioned in the above (underlined) if it is not mentioned in the information label for canned food, then this food is considered to be in violation of the terms of the standard specification and should not be consumed	1	41	8	92	158	1.51	Strongly don't agree	<3	30.2
Average							3.28	Neutral	≥3	65.6
Category length 4/5= 0.8		4.20-5	3.40-4.19	2.60-3.39	1.80-2.59	1-1.79				
Hypothetical mean = 3										

It is noted through the results obtained of label information that the Iraqi consumer is interested in reading the expiration date and storage conditions and making sure that the language of the label is written in Arabic, but he is less interested in reading the ingredients on the label and checking the name of the producing company, and is not interested in making sure of the presence of the batch number, nor never know that the food is considered to be in violation of the requirements of the standard specification and should not be consumed if the previous requirements are not mentioned in the information label as **IQS 230: Iraqi Standard (1989); Grunert & Achmann (2016)**.

2. Consumer culture

The average of arithmetic mean, weight percent (%) and degree of response was 3.75, 71.4% and Agree (>3), respectively for consumer culture element (Table 2). The degree of samples response was agreed (>3) for checking of food additives in the canned food he buys (Question No. 8), knowing that excessive consumption of canned food leads to the possibility of health problems (Question No. 9), knowing food is classified according to the degree of danger in order to deal with caution with canned food before buy and consumption into high-risk, such as red and white meat, milk and milk products (Question No. 11a), medium risk, such as vegetables, fruits, bread and pastries (Question No. 11b) and low risk, such as cereals, legumes, dry food, sugar and salt (Question No. 11c), knowing that consumer shall direct disposal from expired food that has passed for a short time in the event that there is in the house (Question No. 12a), and they are neutral (≥3) for knowing that consumer could be consuming the expired food that has passed for a short time in the event that there is in the house because it has not been expiring for a long time, so it is safe for consumption and does not affect health (Question No. 12b), knowing that consumer shall total disposal of food and no consumption in the event of mold appearing in vegetables, fruits and bread (Question No. 13a), while they are not agreed (<3) for preferring to presence the standard specification certificates (HACCP, ISO22000, etc.) in the product's consumer wants to buy (Question No. 9), and knowing that consumer shall partial disposal of food and consumption of the remainder of food in the event of mold appearing in vegetables, fruits and bread (Question No. 13b).

Table (2): Analysis of consumer culture variable.

Question No.	Question	Degree of response					Arithmetic mean	Arithmetic mean relation with		Weight percent (%)
		Strongly agree	Agree	Neutral	Don't agree	Strongly don't agree		Degree of response	hypothetical mean	
		5	4	3	2	1				
Consumer culture										
8	The consumer checks for food additives in the canned food he buys	90	156	34	17	3	4.04	Agree	>3	80.8
9	The consumer prefers to presence the standard specification certificates (HACCP, ISO22000, etc.) in the products he wants to buy	8	21	59	168	44	2.27	Don't agree	<3	45.4
10	Excessive consumption of canned food leads to the possibility of health problems	61	113	78	36	12	3.59	Agree	>3	71.8
11	Food is classified according to the degree of danger in order to deal with caution with canned food before buy and consumption into:									
a	High-risk, such as red and white meat, milk and milk products	45	147	81	16	11	3.66	Agree	>3	73.2
b	Medium risk, such as vegetables, fruits, bread and pastries	91	123	62	18	6	3.92	Agree	>3	78.4
c	Low risk, such as cereals, legumes, dry food, sugar and salt	101	146	28	21	4	4.06	Agree	>3	81.2
12	In the event that there is expired food in the house that has passed for a short time, the consumer shall:									
a	Direct disposal	36	133	52	73	6	3.4	Agree	>3	68
b	Consuming it because it has not been expiring for a long time, so it is safe for consumption and does not affect health	62	58	75	96	9	3.23	Neutral	≥3	64.6
13	In the event of mold appearing in vegetables, fruits and bread, the consumer shall:									
a	Partial disposal and consumption of the remainder	198	61	28	11	2	4.47	Strongly agree	>3	89.4
b	Total disposal and no consumption	42	83	68	74	33	3.09	Neutral	≥3	61.8
Average							3.75	Agree	>3	71.4
Category length 4/5= 0.8		4.20-5	3.40-4.19	2.60-3.39	1.80-2.59	1-1.79				
Hypothetical mean = 3										

It is noted through the results obtained of consumer culture that the Iraqi consumer is interested in for checking of food additives, the health problems as caused by consume, food classification based on degree of danger (high, medium and low risk), but he is less interested in disposing of food expired and is not interested in for preferring to presence the standard specification. Consumer culture in food safety issue was considered a main mater in public health and food borne disease due to healthy great damage that lead to poisoning and died in some times, as well as, this mater lead to losses in economic productivity, increases in medical care cost and delays in work studies for population (Tutu & Anfu 2019; Panghal *et al.*, 2018; Carrascosa *et al.*, 2016).

3. Shopping and marketing

The average of arithmetic mean, weight percent (%) and degree of response was 3.06, 62.2% and neutral (≥3), respectively for shopping and marketing element (Table 3). The degree of samples response was agreed (>3) for the effect of sale method and the seller's commitment to storage conditions on the consumer's purchasing decision (Question No. 14), preferring consumer to buy special offers even when he knows that the expiry date is end and the storage conditions are inappropriate (Question No. 15), while they are strongly don't agree (<3) for the having authority which consumer through it could register a complaint with it in case he is exposed to fraud in this matter (Question No. 16).

Table (3): Analysis of shopping and marketing variable.

Question No.	Question	Degree of response					Arithmetic mean	Arithmetic mean relation with		Weight percent (%)
		Strongly agree	Agree	Neutral	Don't agree	Strongly don't agree		Degree of response	hypothetical mean	
		5	4	3	2	1				
Shopping and marketing										
14	The method of sale and the seller's commitment to storage conditions affect the consumer's purchasing decision	68	152	31	46	3	3.79	Agree	>3	75.8
15	The consumer prefers to buy special offers even when he knows that the expiry date is end and the storage conditions are inappropriate	53	144	46	48	9	3.61	Agree	>3	72.2
16	Is there an authority through which the consumer can register a complaint with it in case he is exposed to fraud in this matter	2	29	23	89	157	1.77	Strongly don't agree	<3	35.4
Average							3.06	Neutral	≥3	61.2
Category length 4/5= 0.8		4.20-5	3.40-4.19	2.60-3.39	1.80-2.59	1-1.79				
Hypothetical mean = 3										

It is noted through the results obtained of shopping and marketing that the purchasing decision of Iraqi consumer is effected by the method of food sale, prefers to buy special offers, and he unknowing how to register a complaint in case he is exposed to fraud. The effect of purchasing decision of consumer depend on the method of sale and the seller's way of attracting customers, in this case, many consumers may be exposed to fraud due to could not control of their purchasing decisions while shopping, therefore, he can claim his right to compensation by the competent authorities for consumer protection (Ali *et al.*, 2016; Bellemare 2015).

4. Awareness and knowledge

The average of arithmetic mean, weight percent (%) and degree of response was 2.96, 59.2% and neutral (≤ 3), respectively for awareness and knowledge element (Table 4). The degree of samples response was agreed (>3) for the needing of consumer awareness programs in this area of buying and consuming canned food and the risks that may result from it (Question No. 18),

while they are neutral (≥ 3) for knowing of consumer sufficient of food safety issues (Question No. 17), and neutral (≤ 3) for allocate official media to part of its programs to educate consumers about the risks associated with consuming canned food (Question No. 20), and they are strongly don't agree (<3) for the providing executive authorities for specialized awareness and guidance programs on how to safely handle canned food (Question No. 19)

Table (4): Analysis of awareness and knowledge variable.

Question No.	Question	Degree of response					Arithmetic mean	Arithmetic mean relation with		Weight percent (%)
		Strongly agree	Agree	Neutral	Don't agree	Strongly don't agree		Degree of response	hypothetical mean	
		5	4	3	2	1				
Awareness and knowledge										
17	The consumer have sufficient knowledge of food safety issues	28	116	89	55	12	3.31	Neutral	≥3	66.2
18	The consumer needs awareness programs in this area of buying and consuming canned food and the risks that may result from it	51	145	38	62	4	3.59	Agree	>3	71.8
19	The executive authorities provide specialized awareness and guidance programs on how to safely handle canned food	1	4	17	86	192	1.45	Strongly don't agree	<3	29
20	The official media dedicate part of their programs to educate consumers about the risks associated with consuming canned food	29	57	119	64	31	2.96	Neutral	≤3	59.2
Average							2.83	Neutral	≤3	56.6
Category length 4/5= 0.8		4.20-5	3.40-4.19	2.60-3.39	1.80-2.59	1-1.79				
Hypothetical mean = 3										

It is noted through the results obtained of awareness and knowledge that the Iraqi consumer interested in and consuming canned food, and he hoped from executive authorities and official media to provide these programs. The awareness programs in food safety

contribute to consumer empowerment and make him able to take a true purchasing decision for canned food to prevent happen risk of these type of food on consumer health (Alsoufi 2021).

CONCLUSIONS

The Iraqi consumer need training and guidance programs in food safety issue for canned food, especially in analysis of label information, growing of consumer culture for shopping, awareness and knowledge to control of risk associated with consuming canned food

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