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FOOD SAFETY KNOWELDGE, BEHAVIOR AND ATTITUDE OF LIBYAN CONSUMERS

MASTER THESIS

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This study by the Environmental Education and Management Department of the jury are considered as MASTER'S THESIS.

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ABSTRACT

FOOD SAFETY KNOWLEDGE, BEHAVIOR AND ATTITUDE OF LIBYAN CONSUMERS

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This research aims to study and analyze the relationship between consumer awareness and consumer protection issues relating to food safety; the researcher defined a set of variables associated to consumer awareness in this research to study the relationship between this awareness and between some of the economic and social characteristics of consumers such as the level of income for the head of household, level of education for the research samples and some other characteristics related to awareness of the consumers. To achieve this goal the researcher prepared a questionnaire for this purpose which been fulfilled from a random sample of Libyan students who are studying at Near East University in various specialist and stages of university study. To analysis these data the researcher has used non-parametric statistical analysis for the previous relationship, due to the nature of metadata where chi square has been used to study the moral awareness of the relationship between the consumer and all of the level of income and level of education. These results showed the presence of statistically significant relationship between the level of consumer awareness and the level of income and the level of education, the results also showed that there were significant correlation between consumer awareness and all of the level of income and level of education. The study concluded that consumer protection policies should be directed to teach and educate consumers with a focus on lower-income segments of society and in the lower level of education.

Keywords: Food poising, Food safety, Libyan student, Environmental education

ÖZET

Libyalı Tüketicilerin Gıda Güvenliği hakkındaki Bilgi, Davranış ve Tutumları

Amna Abdualaty Hakem

Yüksek Lisans, Çevre Eğitimi ve Yönetimi

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Bu araştırmanın amacı tüketici bilinci ve tüketici güvenliği arasındaki ilişkiyi gıda güvenliği açısından analiz etmektir. Araştırmacı, hane reisinin gelir düzeyi, araştırma örneklerine yönelik eğitim düzeyleri ve tüketicilerin farkındalığını, tüketicilerin ekonomik ve sosyal özellikleriyle bahsi geçen farkındalık arasındaki ilişkiyi incelemek için tüketici bilinciyle ilgili bir takım değişkenler belirlemiştir. Bu hedefe ulaşabilmek için Yakın Doğu Üniversitesi'nin farklı bölümlerinde eğitim gören Libyalı öğrenciler araştırmaya katılmış ve tesadüfi örnekleme yönteminden oluşan bir anket hazırlanmıştır. Ki karenin kullanıldığı üstveri özelliklerinden dolayı tüketici, gelir seviyesi ve eğitim düzeyi arasındaki ilişkide ahlaki değerlerin incelenmesi için parametrik olmayan istatistiksel analiz kullanmıştır. Sonuçlar tüketici bilinci seviyesi, gelir seviyesi ve eğitim düzeyi arasındaki ilişkinin istatistiksel olarak anlamlı olduğunu göstermiştir. Aynı zamanda tüketici bilinci, gelir düzeyi ve eğitim düzeyi arasında güçlü bir korelasyon olduğunu da göstermiştir. Araştırmada, toplumda düşük gelirli ve eğitim düzeyi düşük olan tüketicilere tüketici koruma politikaları yönlendirerek bu konuda eğitilmeleri gerektiği sonucuna varılmıştır.

Anahtar kelimeler: Gıda zehirlenmesi, Gıda güvenliği, Libyalı öğrenci, Çevre eğitimi

ABBREVIATION

WHO:	World Health Organization
WFSO:	The World Food Safety Organization
ISO:	International Organization Standardization
CFP:	The Conference for Food Protection
IFAS:	The Institute of Food and Agricultural Sciences
IFT:	The Institute of Food Technologists
IFAS:	The Institute of Food and Agricultural Sciences
CFP:	The Conference for Food Protection
FAO:	Food and Agriculture Organization of United Nations
N:	Number of student
(%)**:**	Percentage

TERMINOLOGY

SAFE FOOD: It is free from contaminants and risk and that does not cause injury or damage or disease to humans in the long term or near food, based on the results of laboratory analysis and experiments on laboratory animals or at the long use him (Watson, 2002)

THE CORRUPTION OF FOOD: Is any change occurs in food affect the properties due to microbial activity, chemical or mechanical harmful, leading to rejection by the consumer or stopped by regulatory authorities for non-conformity with the specifications for quality and safety of food and health conditions (Millan,2004).

FOOD POISONING: The condition is a result of eating food that either because it is contaminated with pathogenic microbes or products thereof or as a result of eating poisonous chemical pollutants (Emerging Infectious Diseases, 2011).

DISEASES TRANSMITTED THROUGH FOOD: Any source of food or water or disease caused by eating food containing any pathogen infects humans or animals (Sharif, 2010).

FOOD ESTABLISHMENT: Any building or place used for the production, operation and manufacturing, packing and storage of food including the surrounding region and the subject under one management (Redmond, 2003).

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CHAPTER I
INTRODUCTION

Despite great advances in food production techniques they still have many negative effects on consumers, like the expansion of the use of chemicals as protective which are added to food products in order to keep them safe for a long time , this technology has led to the expansion of contamination of foodstuffs. Under the breadth of the phenomenon of the globalization of our food supply it has become more clearer that it is necessary to strengthen food safety systems in all countries (Watson ,2002).

The organizations who work in the field of health around the world have adopted many policies to develop special food manufacturing bases, and these policies alerted food production chain at all stages, starting from farmers, manufacturers and even vendors and consumers, These organizations did not neglect the factor awareness and education about health risks due to knowledge of food safety The WHO and the United Nations Food and Agriculture Health Organization warn countries about emergencies related to food safety through an international, network of information, An example to this trend came in the World Health Organization site that represented communities in governments, agencies and organizations informal and individual attention to food safety and the mind of the health priorities in different countries around the world as quoted (food safety a public health priority) because millions of people get diseases and many of them die as a result of eating unsafe food. This documented serious outbreaks of foodborne illness in all Continents in the past ten years, as many countries showed a big increase in food-related disease rates (Marilyn .etc al , 2003).

In order to achieve the goal of WHO called in the World Health for the year 2015, approved on the seventh of April 2015 organization adopted the slogan aims to encourage efforts to improve food safety from farm to plate and in all the stages that separate them. (This allows the World Health Day 2015 an opportunity to alert the people working in the various sectors of government, farmers, manufacturers, wholesalers, retailers and practitioners in the field of health, as well as consumers, to the importance of food safety, and the role that everyone can play so that we are all confident that we can eat the food safely (Wilson. etc al. 2003).

The organization helps countries to prevent foodborne outbreaks, detect and respond to diseases, in line with the Codex Alimentations, a set of standards, guidelines and codes of practice relating to international food and food covering all key processes.

Researcher seeks in this study to identify the current reality, the extent of knowledge of consumers' health problems caused by food processing of canning and drying, save and otherwise, as well as access to the role played by the concerned authorities to protect the consumer in the market in the two countries, the study community rights, and to identify the means to strengthen the protection of consumer rights in its various forms.

1.1. The Problem of The Research

As a matter of fact there is a relationship between the behavior, attitudes and customs and between the environment in the society in which the citizen lives, so that the citizen is often influenced by variables that occur on society and affect behaviors. This research raises a fundamental question, Are the Libyan students studying in the Near East University in Cyprus aware of food safety?

Related to the question mentioned above there are some other sub-questions appeared as follows

1. Are students aware of food diseases?
2. Does the educational level of the family affect the students' awareness of the importance of the health system?
3. Do the students have any idea of international organizations working in the field of food protection?
4. Is there any difference between males and females towards the knowledge of food safety?

1.2. Hypotheses of the Study

1. The awareness of food safety is affected with positive progress in education.
2. Consumption pattern is influenced positively with the increase in the average consumer entry.
3. The awareness of food safety in countries that have systems and laws that protect consumer is positive regardless to the level of income associated with the consumption rate.

1.3. Importance of the Research

This research at determining the prevalence of awareness among the sample of the research about the risks arising from lack of knowledge of food problems, Knowing threats resulting from the food problems stand in the way between the incidence of various diseases, the target population in the research and the slide produced in society as a category for which they received the opportunity in education. The most productive age group in society should therefore the health care for, the segment in spreading awareness of the risks caused by lack of food safety.

1.4. The Aim of the Research

1. Identify the extent of consumer awareness of the importance of food safety.
2. Study and analysis of the relationship between the consumer awareness in the study population and some of the social and economic variables and demographic characteristics.
3. Test the relationship between these variables and the factors that reflect the consumption pattern.

1.5. Research Methodology

The researcher used descriptive statistical techniques to find the averages and standard errors, as well as the analytical statistics to analyze the data according to their nature by using statistical analysis of Social Sciences program SPSS, 10.

1.6. Previous Studies

First Research and Studies in the Arab world

1.6.1. Consumer Protection

This study aimed to identify the reality of the Jordanian consumer protection through identification of the Jordanian experience in this area, and to identify the problems of the Jordanian consumer and try to propose solutions to them, The researcher distributed two the first to 260-consumers, and the second questionnaire II was distributed to the employees in a sample of the industry and the mining sector organizations. (Hajjar, 1986).

The most important results are as follows

- In spite of the multiplicity of government agencies concerned with consumer protection, but the researcher noted the lack of a specialized section within the

government agencies concerned with the problems of the consumer and the follow-up to his complaints and suggestions.

- The need for consumers to provide adequate and appropriate information in order to make purchasing decisions on a sound basis. the consumers through their personal experience that advertising information broadcasted and published was misleading nor help in the procurement process.

1.6.2. Protective in Canned Food, Health and Their Impact on The Iraqi Consumer

The center prepares analytical and field study by researchers about protective in canned food, health and their impact on the Iraqi consumer. The aim of choosing this subject is to research Iraqi family canned food consumption, during the current period, leading to fundamental changes in the pattern of food for the family. preservatives are added to canned food , are not considered dietary do not have any nutritional value, but only added to prevent or delay the growth of microbiology unwanted (Consumer Protection Center for Market Research, University of Baghdad).

The study included about 60 consumers and the most important results are as follows

- The research samples are educated and informed, and can be invoked to give its opinion on the observations and orders to the concerned authorities to oblige producers and importers laws to be impose the production of food cans and health as well as imported goods.
- More than 14%of the sample prefers eating canned milk and milk products. And 70% of them do not know the natural protective and chemical additives in canned food in local markets.
- Almost 42% of the sample consider protective in canned food as food reservation.
- 38% of the participants believed the amount added as protective to various types of certain concentrations and read by the consumer in the media card permitted and authorized by the authorities responsible.
- The limits 50% of the participants was believed that the most important types of medical conditions that appear on canned food are eating a lot, and allergies, vomiting, increased acidity poisoning

1.6.3. Protection of Consumer Rights in the Yemeni Market

The study aimed to identify the current reality of consumer rights and the level of protection in the Yemeni market, as well as access to the role played by those involved in the protection of consumer rights in the Yemeni market, and identifies means to enhance the protection of consumer rights in its various forms. The questionnaire has been distributed to 420 consumers in Aden province. The most important results of the study were as following

1. 75% of the participants were from Yemen government office staff and from Ticahaly market.
2. 82% stated that the role of these organs and bodies are weak,
3. 18% believe t the role of non-existent,
4. Only 6% of respondents said that in Yemen there is Authority for Standardization and Metrology and Quality Control.
5. 62% of respondents need to have control and inspection device independent bodies that do follow a specific ministry.

1.6.4. Consumer Protection and Its Role in Raising Consumer Awareness of the Syrian Citizen

The study aimed to identify the reality of consumer protection in Syria, and to achieve this goal and prove or deny the following assumptions

- Consumer awareness of the Syrian is weak.
- Government control over the consumer market is not effective.
- The formation of Consumer Association in Syria to protect the consumer protection checks Syrian.

Data was collected through interviews and field visits and questions the questionnaire sent from 500 consumers. 95% of the hypotheses level proved too confident confidence level). It was also suggested a number of recommendations that could contribute to a better consumer protection in Syria.

1.6.5. An Analytical Study of the Impact of Consumer Awareness in Consumer Protection

The research aims to study and analyze the impact of consumer awareness of consumers of food commodities in 'Ahsa' and consumer protection and specifically, to study the following points

1. Examine the relationship between consumer awareness and some of the social and economic variables of consumers in Ahsa.
2. Moral test for the relationship between these variables and among the most important factors that reflect consumer awareness.
3. Identify the extent of consumer awareness in Al-Ahsa province and the importance of protecting the consumer guidance.
4. Identify the most important factors that cause concern

According to the study the results obtained were the following

1. The expiration date show that 100% of the college educated and 98% of university care about and look at the history of the product validity, while only 46% of those with high school or less look to the expiry date and reduced this figure to reach only 14% for of illiterates.
2. For the awareness of knowing the damage protective , 95% and 75% over the university and university respectively aware of the damage protective in food and this percentage drops to only 25% for holders of secondary or less and deteriorate the ratio to only 7% of the illiterate.
3. The food calories more than 100% of undergraduates are interested in knowing the amount of calories in food and about 31% to 41% of the academics and those with high school or less interested in this percentage drops to 4% for the illiterate.
4. The awareness of damaged colorings found to be above 100% of undergraduates are 12% to 35% among the academics and among those with high school or less education or illiterate, only 4% are familiar with this important topic.
5. As to the contents of the food fat and cholesterol, the results illustrated that 95% of the above undergraduates and 53% of university care about the contents of the food fat, while this percentage drops to 25% to 34% among those with high school or less and illiterate, respectively.

These results show that the consumer protection policies should be directed to develop and educate consumers and focus on segments of society will the least educated and least culture and to the consumer, especially in popular areas of income. from the results of importance of activating the existing policies and laws to protect the consumer in terms of results, there is a big gap between the Forces laws list and the application of these laws with regard to quality and consumer protection and need a lot of existing laws either to activate in the ground or put some additional laws.

Second Foreign Studies

1.6.6. Study Consumer Standards For Consumers In Britain And Consumer Behavior For The Period 1920 – 1938

Stone has taken into account the major differences in the way the consumption patterns of the different consumption for some reasons the change in preference, as well as the impact of social and cultural variables on these patterns and concluded that the consumption pattern is influenced positively affected with advances in education and learning, as well as with the increase in the average consumer entry **(**Stone J. R, 1954).

1.6.7. The Role of Activists Working In The Area of Consumer Rights Around The World (Alan Thomas Roth 1983 - 1998, Peter Asher Roth 2005, Jennifer Martin Michael Burton 2006 – 2008, Carl Rahndra 2009)

Studies confirm all of Unusan (2007) and Alan Asher (1998) and the pivotal role played by the main activists in the field of consumer rights, around the world, in raising public awareness and provides him with the necessary information. And Peter Roth did a study (2005) which highlights a number of proposals and guarantees on the protection of bank customers (consumers) who want to borrow from these banks without adequate safeguards. And review Jennifer Martin study (2006)states , a number of actions taken by the USA in the field of protection of consumer rights, notably how to organize and put contracts guaranteeing the public's rights, well as the enactment of the necessary legislation for that purpose, as the study shed light on the most prominent international experiences in the field of consumer protection in all of Europe, Asia and the America.

The studies by Michael Burton (2006) elements of the strategy for the activists in the field of consumer protection, setting priorities for action, and seek to form associations and unions involved in the defense of consumer rights, in addition to possession of sophistication and skill in responding to opposition allegations. A study by Carl study

(2008) that the arbitrary application of the law declaration Altwales leads to abuse and harm of those who declared bankrupt. The study by the Rajendra (2009), the Indian experience in the field of consumer protection and that rely on the so-called "consumer courts" as a critical element in the interpretation of disputes that may arise with regard to the rights of consumers.

1.6.8. Measuring the Awareness of Housewives of Food Safety (Gastroenteritis in Ontario / Canada)

This study included the analysis of 44 000 injured intestinal disease have been reported during the period 1997 - 2001. These statistics demonstrate the importance of the home as a source of foodborne disease and thus the fundamental role played by knowledge, attitudes and practices of the consumer for the prevention of foodborne illnesses where the proper trading of food by the consumer in the kitchen is the last line of defense for the prevention of these diseases, The study showed that the food handling in the home is not subject to state control instructions by the relevant official authorities, and therefore informing and educating consumers, especially housewives is the only way to raise the level of food handling practices in the home. In order to develop an effective strategy to educate consumers in the area of food safety, it is necessary to identify the level of knowledge, attitudes and practices of consumers in the area of food safety.

- Knowledge sound practices for trading food among housewives in the city of Amman is still below the required level, in particular in terms of the following things
    a. Lack of separation between foods cooked or readies all raw meat in the freezer.
    b. Thawing frozen meat out of the refrigerator at room temperature.
    c. Reheating cooked food to become only warm.
    d. Leave the leftover food out of the refrigerator for long periods.
    e. Eating eggs fried or boiled well.
- Note has been some trading food malpractice, especially the following
    a. Save the eggs in the refrigerator is clean.
    b. Overcrowding refrigerator foodstuff including more than absorbed.
    - Only 11% percent of the refrigerators of families participating in the study were identical to temperatures keeping food refrigerated (1700 or

less), and about 75% of refrigerators temperature exceeded 19, while the proportion of refrigerators with a temperature of 47.2% reached 2200.

- There are significant differences between refrigerator temperature of small households (1-3 members) and medium-sized households (4-6 members) and large families (7 members or more), where the percentage of matching refrigerators for food preservation temperatures cooled as follows
    a. 15.2% of households and small refrigerators.
    b. 11.2% for medium household refrigerators.
    c. 8.7% for, large families
- The percentage of refrigerators exceeding 15m temperature is as following
    a. 4.3% for refrigerators and small families.
    b. 10.2% for medium household refrigerators.
    c. 22.5% the refrigerators for large families.
- The results of the study show that for the educating the housewife positive has an impact on the food handling practices in the home, but this effect was not decisive, where he was limited in most cases and uneven among the different trading practices for food.
- The results of the study did not show a statistically significant differences between the food handling practices of different age groups for housewives differences, but in a few practices, the level of knowledge and practices of food handling among housewives (16-25 years) was low compared to the level of heads houses older member (26 years and older), The level of the young age group was clearly the best.

CHAPTER II
FOOD SAFETY FROM FARM TO TABLE

Epidemiology of some diseases caused by food on a regular basis from period to period occurs, for example, liver injuries occurred because of the strawberries, and E. coli bacteria spread through apple juice, and so shakes consumer confidence in food safety.

The numbers of those who are exposed to certain diseases resulting from food 1-4 million is not recorded and diagnosed in most cases , but it is interpreted as a common infectious. In any case, there are about 9,000 deaths caused by diseases transmitted through food vegetables and fruit, it is harvested in the season what, manufactured in a factory, then be packed in another factory, then served in somewhere or at home. These crops are harvested by hand, then stored before it is presented in the shops and consumed in homes and considered every step of the previous steps a chance to reach the pathogens to food. The question now is: **What is the ratio of diseases transmitted by these crops, which start out by injury on the farm?**

2.1. Foodborne Reduction There are some positive steps that can be taken by the farmer to reduce the risk of foodborne pathogens that can infect these crops on the farm: (Millan, 2004)

2.1.1 Clean The Soil

The bad use of organic fertilizer is an important source of considerable risk and contributes to spreading the diseases transmitted through food. Valmspbat sick Arabizes like E. coli, Salmonella can be found in the soil for up to three months, depending on the temperature and the state of the soil.

It is disturbing for farmers that there are some causes, which as may remain on the greens cultivated, even though they do not live in the same soil. To minimize contamination of the soil, making use of manure as a source of nutrition and advised avoiding to add fertilizer (compost) on the surface of the soil, but prefers to be added under the soil surface.

2.1.2 Clean Water

Be sure to clean the water used in surface irrigation of the crop or overwhelmed or manufacturing process, and conduct the necessary tests to make sure the cleanliness of

nearby water sources, water from untreated sewage, or near the animal production places.

2.1.3 Clean Wands

The lack of interest of employees or their failure to wash their hands after using the toilets, or when the incidence of viruses diseases. Alqaibdihla- has always been the most important causes of the spread resulting from food diseases; therefore should pay attention to the cleanliness of employees not at the pump only, but also in the fields and orchards as well, and the provision of soap and running water and towels with single use, stick to the fact that employees wash their hands before handling fruits and vegetables.

Let it be known that there is no way to ensure that everything is cultivated and produced by and eaten free of microbial contamination, but it can reduce the risk by following simple preventive steps before the crop comes out of the farm. We will review some suggestions for how to reduce the microbial contamination in the field (Sanlier,N, 2010)

2.1.4 Before Planting

We must use the compost whenever possible. You must use good ways to add organic fertilizer (such as trenches in the sandy soil reclaimed land) and knowledge of its sources, and record amounts added annually, because of the limited ability to living in the soil.

2.1.5 Store Manure

Manure storage must be added to the soil before planting vegetables for 60 days in the summer, and 90 days in the winter, where that prolong the storage period reduce the proportion of pathogens.

Attention must be paid, as the establishment of sound manner leads to kill most pathogens; as a result of the temperature rising to a large degree.

2.2. The Timing of Adding Compost

2.2.1 In the Fall Season

Preferably add each territory which will be laid. It is warm and the soil is saturated or under crop cover, so as to minimize erosion and loss of nutrients. (Anderson JB, Shuster, 2004)

2.2.2 In the Spring Season

Preferably add compost before planting the crop field in the agricultural cycle, and should not be harvest before 120 days from adding compost. Grown carefully and avoid the cultivating near the surface.

2.2.3 Adding Organic Fertilizers during Field Crops Used In the Agricultural Cycle

It is the risk to adding organic fertilizers perennial crops is limited, even if they are harvested by hand. The number of people exposed to the disease at some food up to 1/4 million people annually, but are not recorded and diagnose most of these cases, but it is interpreted as a common infectious. In any case, there are about 9000 deaths resulted from diseases transmitted through food.

2.3. Secondly, During Production

2.3.1. Strengthening the Health System For Workers

You must supply and maintain clean water courses are clean farm with care. Provide renewed soap and water, and towels and one for washing hands, with an emphasis on their use.

2.3.2. Test Water for Irrigation

Reduce the use of groundwater wells, the risk of water contamination if they are well covered, and the removal of the animals from sources. Refill the wells. You must test well water every 3 months. When in surface irrigation water users must test the water three times in the season during the period of use and end of the season, especially if the water passed through the farm animal production, or units of sewage treatment. There is a limited risk in the case of the use of drinking water for irrigation; so you must keep records of water tests.

2.3.3 Selection of Irrigation Method

User must use the drip irrigation system whenever that possible, as it is dysfunctional for direct contact between the crop and irrigation water, as it instructs the use of water.

2.3.4 Some Other Contamination of the Crop Pathogens Pathological

There are some other precautions to be observed to prevent contamination of the crop pathogens pathological you should not use manure in fertilizer additions during the

season. When is used, animals should not be allowed to graze on the farm, including poultry during the harvest season. Reduce the chances of wild animals over the farm whenever possible.

2.4. Third, During the Harvest

2.4.1 Strengthening the Health System for Workers

- User must supply and maintain clean farm bathrooms.
- Provide soap and towels to for single use, with an emphasis on its use.
- Cleaning and disinfection of storage areas prior to use.
- Clean water to combine funds and cleared before the start of the harvest process.
- Storage boxes in direct sunlight; because the UV rays help in getting rid of many pathogens.
- Avoid standing inside the boxes during combination; to reduce the chances of contamination by pathogens pathological shoes.
- Inviting visitors to wash their hands before participate in the gathering.
- Provide adequate toilets for visitors, with the provision of water, soap and towels for single use.
- Do not use the fruits fallen and infected diseases and insects of any artifacts (Sharif, 2010).

2.5. Fourth the Post-Harvest Transactions

2.5.1 Strengthening the Health System for Workers

- Posters should be placed in water courses as instructions for workers when washing their hands.
- Drinking water is used in each washing operations, with a Alklorionnbha (a concentration of 100 ppm) and maintain the PH = 7, taking into account that the concentration of chlorine is reduced whenever the dirty water.
- Cleansing packing station must clean and sanitize packing places at the end of each day.
- Combat all animals especially rodents and insects.
- Do not to allow smoking and eating at packing.
- Maintaining crop cool, if that cooled after it quickly lead to reduced growth of any satisfactory possible causes.

- If you use ice in the cooling pools it must be from drinking water, and taking into account that the degree of cooling water temperature in less than the degree of the product temperature washes basins.
- Store the crop at the proper temperature; to maintain quality, and reduce the chance of exposure to the causes of disease.

Food safety is the responsibility of everyone in the trading chain from the farm to the consumer, in addition to the farms there are organizers of a combination, packaging and retailers, and workers in the field of food service as well as the consumer at his home. The application of these precautions contributes to reducing pollution of vegetables and fruits risks, and work on food safety for the safety of everyone (Altekruse,S.F.2000).

2.6. International Organizations on the Safety of Food

2.6.1 World Health Organization (WHO)

Health is a state of complete physical, mental and social, not merely the absence of disease or infirmity. This Adapted definition of the preamble of the WHO Constitution, as adopted by the International Health Conference held in New York in the period between June 19 and July 22, 1946 which signed by representatives of 61 countries on July 22, 1946, and entered into force on April 7 April 1948, was not subject to Definition of any amendment since 1994 (World Health Organization.2013).

2.6.1.1The theme for World Health Day 2015 is a Sood Safety

March 2015 - is linked to unsafe food causing death of an estimated two million people a year, mostly children. The food that contains harmful bacteria, viruses or parasites or chemicals responsible for more than 200 starts of diarrhea disease and up to cancer. Under the breadth of the phenomenon of the globalization of our food supply, it has become increasingly clear that it is necessary to strengthen food safety systems in all countries and among them. For this reason, the World Health Organization encourages efforts to improve food safety from the farm to the plate (and in all the stages that separate them) World Health Day on April 7 / April 2015

2.6.1.2 Five Keys to Safer Food

Food safety is a shared responsibility. It is important to work along the food production chain, from farmers and manufacturers and even vendors and consumers. And provide

the **Five Keys to Safer Food of the World Health Organization**, for example, practical guidance to sellers and consumers on food handling and preparation

- **Commandment 1** Keep your life clean and cleaner.
- **Commandment 2** Separate raw food and cooked food
- **Commandment 3** Cook food thoroughly
- **Commandment 4** keep food at safe temperatures
- **Commandment 5** Use water and raw materials safe

This allows the World Health Day 2015 an opportunity to alert the people working in the various sectors of government, farmers, manufacturers, wholesalers, retailers and practitioners in the field of health, as well as consumers, to the importance of food safety, and the role that everyone can play so that we are all confident that we can eat the food you put it in Sahonna safely (World Health Organization (WHO), 2007).

2.6.2 The World Food Safety Organization (WFSO)

The World Food Safety Organization is an independent body that is dedicated to help food industry establishments in the development of food safety management methods to ensuring lasting customer-supplier partnerships and consumer confidence. Through involvement with the WFSO-Food Safety certification programs, food establishments gain increasing consistency and effectiveness in the management of food safety. These certification programs provide participants with opportunities for on-going application of winning techniques.

The WFSO supports the EU, ISO and the corresponding accreditation initiatives for the implementation of food safety management (HACCP) system. Achieving a food safety certification that aligns with the guidelines from FAO, WHO-Codex Alimentarius Commission and supported by local legislation is of the essence. Hence the WFSO approach equips auditors to verify the effectiveness of food safety management systems and enforces a process of assessment that ensures continuous improvements.

2.6.2.1 The WFSO Approach

- The aim of WFSO is to Food Care Award, Food Processing Best Practice Certification & Food Safety Auditors Training and Licensing programs constitute the key components of this approach

- Provides a platform for the development and maintenance of readily adaptable Food Safety Management Standards worldwide
- Provides the criteria for measuring the effectiveness of Food Safety Management systems
- Offers internationally recognized food safety systems certification programs through the Food Care Award (FCA) & Food Processing Best Practice (FPBP) Certification Schemes.
- Serves as an information and education resource for the certification programs participants
- Offers auditors certification training programs
- Retains trained auditors to carry out food safety audits in general and to encourage participation in the WFSO certification programs
- Provides networking opportunities for food establishments
- Maintains technical and legal help lines
- Maintains a register of accredited consultants.

2.6.2.2 The Aims of the World Food Safety Organization

To interpret and communicate food laws, regulations and standards in a language and through channels accessible to lay persons.

- To provide information, education, networking for food practitioners.
- To provide accredited training program.
- To provide technical and legal help lines.
- To provide a register of accredited consultants and auditors.
- To provide the criteria for measuring an effective Food Safety Management system.
- To provide the platform for all Food Agencies to jointly develop an International Food Safety Management Standard.

2.6.3 International Organization Standardization ISO

2.6.3.1Definition

International Organization for Standardization is an organization working on the development of standards, and includes the organization of representatives from several national organizations standards. This organization was founded in February 23, 1947 and is authorized for commercial and industrial global standards. This is the organization's headquarters in Geneva.

2.6.3.2. Popular Standards

1. ISO 9000 Quality management.
2. ISO 14000 Environmental management.
3. ISO 3166 Country codes.
4. ISO 26000 Social responsibility.
5. ISO 50001 Energy management.
6. ISO 31000 Risk management.
7. ISO 22000 Food safety management.
8. ISO 27001 Information security management.
9. ISO 45001 Occupational health and safety.
10. ISO 37001 Anti bribery management systems.

2.6.3.3. ISO 22000 - Food Safety Management

The ISO 22000 family of International Standards addresses food safety management, the consequences of unsafe food can be serious and ISO's food safety management standards help organizations identify and control food safety. Hazards. As many of today's food products repeatedly cross national boundaries, International Standards are needed to ensure the safety of the global food supply chain. The ISO 22000 family contains a number of standards each focusing on different aspects of food safety management.

2.6.3.4. Benefits of International Standards

International Standards bring technological, economic and societal benefits. They help to harmonize technical specifications of products and services making industry more efficient and breaking down barriers to international trade. Conformity to International Standards helps reassure consumers that products are safe, efficient and good for the environment.

2.6.4. The Conference for Food Protection (CFP)

The Conference for Food Protection (CFP) is a non-profit organization in the United States that was formed in 1971. The structure of the conference provides a representative and equitable partnership among regulators, industry, academia, professional organizations and consumers to identify problems, formulate recommendations, and develop and implement practices that ensure food safety. New rapidly developing food technologies and marketing innovations challenge all groups

involved in food production and monitoring to work together to enhance the quality of our food supply. The Conference for Food Protection meets at least biennially to provide that forum. The conference works based on a highly structured process, and the conference provides an excellent example of Robert's Rules of Order in action. The CFP should not be confused with the International Association for Food Protection, a non-profit association of food safety professional.

2.6.5. The Institute of Food and Agricultural Sciences (IFAS)

It is an agriculture, life science, pathogen, and invasive species research facility in Florida affiliated with University of Florida. It is a partnership between federal, state, and county governments that includes an extension office in each of Florida's 67 counties, 13 research and education centers, several demonstration sites, the University of Florida College of Agricultural and Life Sciences (including the School of Forest Resources and Conservation) and the School of Natural Resources and Environment), the Center for Tropical Agriculture, portions of the University of Florida College of Veterinary Medicine, the Florida Sea Grant program, and the International Program for Food, Agriculture and Natural Resources.

IFAS research and development covers natural resource industries that have a $101 billion annual impact. The program is ranked #1 in the nation by the NSF. Because of this mission and the diversity of Florida’s climate and agricultural commodities, IFAS has facilities located throughout Florida. Starting June 1, 2010 IFAS will be under the leadership of Dr. Jack Payne, who was named Senior Vice President for agriculture and natural resources for the University of Florida on February 26, 2010

2.6.6.The Institute of Food Technologists (IFT)

The Institute of Food Technologists (IFT) is an international, non-profit scientific society of professionals engaged in food science, food technology, and related areas in academia, government and industry. Since its founding in 1939, IFT has been committed to advancing the science of food. It has more than 17,000 members from more than 95 countries-

2.6.7. International Food Information Council (IFIC)

Founded in 1985, the International Food organization whose mission is to effectively communicate science-based information on food safety and nutrition to health and

nutrition professionals, educators, government officials, journalists, and others providing information to consumers, primarily in the United States. IFIC is supported by the broad-based food, beverage, and agricultural industries. IFIC does not represent any product or company, nor does it lobby for legislative or regulatory.

2.6.8. The International Life Sciences Institute (ILSI)

The International Life Sciences Institute (ILSI) is a nonprofit science organization founded in 1978 and headquartered in Washington, DC. It is a member organization whose members are primarily food and beverage, agricultural, chemical, and pharmaceutical companies. According to its 2009 annual report, 68% of its revenue comes from member support; 17% from grants and contributions; and the balance from publications, conference registration, and other sources.

ILSI is a global organization with 16 branches that operate at the global, regional, or country-specific level. These include ILSI Argentina; ILSI Brazil; ILSI Europe; ILSI Focal Point in China; the ILSI Health & Environmental Sciences Institute; ILSI-India; ILSI Japan; ILSI Korea; ILSI Mexico; ILSI North Africa and Gulf Region; ILSI North America; ILSI North Andean; ILSI South Africa; ILSI South Andean; ILSI Southeast Asia Region; and ILSI Taiwan.

It also includes the ILSI Research Foundation, which, unlike the branches, does not have members According to ILSI's bylaws,(5) 51% of its Board of Trustees must come from the public sector, primarily universities. The balance of trustees is elected from its membership Information Council (IFIC) is a nonprofit.

2.7. The Methods of Food Preservation and Their Affects

Global statistics indicate that about 25-30% of the World Food is lost as a result of various factors, damage, and corruption, In the African continent, for example, we find that the rate of losses in the potato crop up to 15-60%, in the rice harvest up to 6-24% and up in fresh fish to 20-40% and in each of mango, tomato up to 25-50% and in the onion crop up to 16%. These reasons increased attention in recent years keeping food operations are larger than the existing either through traditional methods or developing innovative ways working on food production on a high degree of security of the microbiological while maintaining the nutritional and sensory properties of natural methods as much as possible (Wilson, 2002).

2.7.1. Traditional Methods Of Food Preservation

Traditional methods of food preservation, which actually was used on a commercial scale for a long time, can be divided by three main methods bases on:

First restricting access of micro-organisms to food by packaging operations and in particular the use of sterile packaging for food treatment method of thermally.

Second the inhibition of micro-organisms in products which include

1. Thermal treatment (pasteurization and sterilization trade).
2. Irradiation.

Third delaying or preventing the growth of microorganisms through

1. Reducing temperatures by cooling and freezing.
2. Reducing liquid activity in food using drying, salting and treatment curing, the high concentration of sugar C3 raise acidity on food.
3. Fermentation.
4. Vacuum and modified atmosphere packaging on serving.

2.7.2. Consumer Desires And Trends Required For Food Preservation

1. It must achieve a high degree of food safety so that it is not corrupted or cause of food problems while use or storage.
2. Food must have quality in terms of appearance, texture and flavor in the sense that is roughly comparable to the original and retains the characteristics of food.
3. It must be produced naturally and depend on the natural additions.
4. Food should be keep high safety conflations .
5. Must have the food healthy and beneficial (Redmond, 2003)

2.7.3. Modern And Advanced Methods of Food Preservation

Some modern methods of food preservation be based on the old bases, i.e. a amendments to the methods used, and some are completely new techniques , all of which are designed to improve product quality while maintaining the same degree of safety and the level of corruption factors, if not the best. Modern methods can be divided for keeping food on the same basis as in the three conservation operations as follows (Ohlsson, 1997; Manvell, 1997).

1. Restrict access of micro-organisms to food by packaging operations and in particular the use of sterile packaging for food treatment method of thermally.
2. The inhibition of micro-organisms in products.
3. Delay or prevent the growth of microorganisms.

4. Most modern methods to avoid the use of conventional thermal treatment to maintain food quality**,**

2.7.4. Maintain Food Quality

These methods include (Grunert, 2005):

1. The spread of the heating mode to high temperatures for a short time (HTST) in parallel with the development of sterile packaging method.
2. Using new methods of heating like Microwave and Electrical resistance.
3. The use of alternative natural ways to maintain for heating like
    a. Ionizing radiation to spread around the world and proven safety and effectiveness in food preservation.
    b. High hydrostatic pressure.
    c. Use of ultrasound.
    d. The use of high-voltage electrical vibrations.
4. The uses of new tools such as inhibitory disinfect surfaces of carcasses and meat and poultry cutters acids.

2.7.5. How to Stop The Growth of Microorganisms

For a way to delay or prevent the growth of microorganisms, this method includes a range of modern methods used in this field such as:

1. The use of common transactions or the so-called Hurdle technology.
2. The recent developments of the method of packing in an atmosphere rate, particularly that contain carbon dioxide for food, which is stored under refrigeration.
3. New materials protected are:
    a. Derived from living organisms bacteriocins minutes.
    b. Derived from animal sources antibiotic peptides.
    c. Derived from plant sources, the most important essential oils and phenolic substances (Pierson & Corlett, 1992).

2.8. Food Preservation By Radiation

Food preservation by radiation is a natural way are exposing the food to one of the three types of ionizing radiation gamma rays, X-rays or electrons accelerated will high speed electron beam, and is done in special units for those rays and for a specific time.

This radiation is characterized by that it has a deep penetrating power and have enough energy to break chemical bonds and ionization of molecules when they pass without raising the temperature of irradiation on the work stopped or biological processes for the causes of corruption organic food disorder.

The research on the ionizing radiation found that the gamma rays are considered one of the best means of influencing food preservation. Gamma rays are ionizing electromagnetic radiation wavelengths is issued isotope cobalt60 (Pierson & Corlett, 1992).

Food preservation has been under study by radiation and intensive research for more than forty years. These studies found that the irradiation process (under court conditions) do not result in formation of effective materials or radioactivity in food radiological safety and have little nutritional value of the transaction for food and do not lead to the formation of any toxic compounds or her cancerous effect (WHO, 1981).

This also proved free food irradiation of pathological microbes and microbial toxins harmful to human health. It has been found that the decomposition products of radioactive radiolysis products as gelatos formic acid and acetaldehyde and carbon dioxide widespread and commonly found in food and also in naturally formed by thermal treatment.

The United Nations Food and Agriculture payment (FAO) and the World Health (WHO) interest in the outcome of this research indicated that the food processor radiation is food "safe healthy" In addition to the nutritional value of these foods was found to be good compared to other methods. Council of combined experience in the field of food irradiation JECFI under the supervision of the Food and Agriculture Organization and the World Health Organization and the International Atomic Energy Agency, held in 1980, has decided that the scientific information and data available to him to prove and confirm that food irradiated even medium-dose (10 kg) do not result in problems or effects toxic and allows use by redundant tests without human health aspects (WHO, 1981).

Among the most important features of gamma irradiation is its ability to exterminate the microbes and helps the ability of radiation to penetrate to the growth of microbes places

between tissues of a food item to the inhibition of growth to the extent permitted by lengthening the period of commercialization and reduce the waste of them.

2.9. Division of Radiation Used in Food Keeping

The radiation is divided into several doses depending on the purpose namely.

1. Radiappertization: a complete sterilization of food material by radiation need high radiation doses (45-50 kg) to break the corrupting all micro-organisms for food and harmful to human health, including bacteria which is more resistant to radiation) objects. This treatment may cause a change in the color and smell of a food item, especially if they are the type on which contains a high percentage of humidity.
2. Excision (Radicidation) This type of treatment is designed to remove microorganisms that are related to certain of causing damage to human health. It used in that radiation doses lower than those used in sterilization operations and adequate to destroy pathogens while reducing pregnancy microbial to the extent that does not cause unusual problems of food and cannot reproduce for a period of time after irradiation which helps to prolong food product storage period. Since Salmonella is the most micro-organisms sensitive to radiation, one of the anti- microbial food and harmful to human health, so the first goal is to determine Rededication's necessary to get rid of salmonella dose. Experience has shown that doses of 0.75 - 1.05 kegs was enough to get rid of 90% of the total number of Salmonella. This process is considered radioactive partial solution in order to prolong the storage period of food product, and therefore requires the use of other means such as complementary cold storage to help extend the storage period.
3. Pasteurization: Pasteurization radiation used her doses up to 5 keg to scare pregnancy microbial in general, but it will allow the survival of some microorganisms alive, including bacteria-producing spores and so the purpose of doubling the food survival using radiation doses to the extent do not allow a change in the recipes quality with significantly reducing the microbial load. Pasteurization of radiation and be suitable for keeping fish, shellfish, poultry, meat and meat products next to many of the fruit**.** (Crawford & Ruff, 1996).

2.9.2. The Effect of Radiation on Microorganisms

The deadly effect of ionizing radiation on living cells due to the direct impact on the genetic material or indirect effect on the cell contents, is caused by ionizing radiation Teixeira in the DNA molecules of DNA which is called direct impact.

The presence of water molecules increases the cell causing DNA damage. DNA and other cell contents, effect is due to the free cracks resulting from the decomposition of water molecules interact with components of the cell, a so-called indirect effect. The indirect impact is the most effective for the presence of cracks that spread inside the cell during and after irradiation, where these cracks interact with vital molecules irrespective of the molecular weight or the vital activity within the cell.

The effect of radiation usually leads to the DNA to the death of cells and the circumstances surrounding be irradiation during an important role show this effect. Irradiation in the absence of oxygen leads to increasing resistance of micro-organisms, and the reduction of humidity or freezing also increases the resistance **(**Monk et al, 1999**).**

2.9.3. Advantages of Food Preservation by Radiation

1. It is possible that the product is packed in a dry state.
2. Irradiation could be used to save different types of food in a range of different sizes and shapes, giving it flexibility recipe. Also subject to use with large volumes of food.
3. Irradiation can be used for the processing of a constant keeping such as salted meat or marinated as well as sausage products.
4. Maintain the sensory characteristics and nutritional value as it can be used for the processing of a constant keeping such as salted or spiced meat and sausage products as well.
5. Maintain the sensory characteristics and nutritional value of natural juices during irradiation operations with a high degree.

Radiation sterilized food has been used successfully during space flights men also used in hospitals to sterilize , especially for patients who have HIV (AIDS) and natural pivot during irradiation operations with a high degree **(**Neijssen, 1995**)**.

2.9.4 Ionizing Radiation Effect on The Nutritional Value And Food Components

Studies and Research showed that irradiation does not affect the nutritional value of foods by more than manufacturing and other conservation used to achieve the same purpose roads. The elements main food such as proteins, fats and carbohydrates relative to fixed doses up to 15 kg (Solar, 1995**).**

2.10. The Causes of Foodborne Illnesses

The majority of foodborne illnesses are caused by harmful bacteria and viruses. Some parasites and chemicals also cause foodborne illnesses (Surveillance for foodborne disease outbreaks—United States, 2007) (Emerging Infectious Diseases. 2011).

2.10.1 First Bacteria

Bacteria is tiny organisms that can cause infections of the GI tract. Not all bacteria are harmful to humans. Some harmful bacteria may already be present in foods when they are purchased. Raw foods including meat, poultry, fish and shellfish, eggs, unpasteurized milk and dairy products, and fresh produce often contain bacteria that cause foodborne illnesses (Clinical Infectious Diseases, 2009).

Bacteria can contaminate food (making it harmful to eat) at any time during growth, harvesting or slaughter, processing, storage, and shipping (Emerging Infectious Diseases, 2011).

Foods may also be contaminated with bacteria during food preparation in a restaurant or home kitchen. If food preparers do not thoroughly wash their hands, kitchen utensils, cutting boards, and other kitchen surfaces that come into contact with raw foods, cross-contamination may also occur during of the spread of bacteria from contaminated food to uncontaminated food (Emerging Infectious Diseases, 2011)

2.10.1.1Types of Bacteria Which Cause Food Borne Illnesses

There are many types of bacteria that cause food borne illnesses, the below examples show some of these types (British Medical Journal,2010):

1. Salmonella a bacterium found in many foods, including raw and undercooked meat, poultry, dairy products, and seafood. Salmonella may also be present on egg shells and inside eggs.
2. Campylobacter jejuni (C. jejuni) found in raw or undercooked chicken and unpasteurized milk.

3. Shigella a bacterium spread from person to person. These bacteria are present in the stools of people who are infected. If people who are infected do not wash their hands thoroughly after using the bathroom, they can contaminate food that they handle or prepare. Water contaminated with infected stools can also contaminate product in the field.
4. Escherichia coli (E. coli) this type includes several different strains, only a few of which cause illness in humans. E. coli O157H7 is the strain that causes the most severe illness. Common sources of E. coli include raw or undercooked hamburger, unpasteurized fruit juices and milk, and fresh produce.
5. Listeria monocytogenes (L. monocytogenes) has been found in raw and undercooked meats, unpasteurized milk, soft cheese, and ready-to-eat deli meats and hot dogs.
6. Vibrio a bacterium that may contaminate fish or shellfish.
7. Clostridium botulinum (C. botulinum) a bacterium that may contaminate improperly canned foods and smoked and **salted fish**

2.10.2. Second Viruses

Viruses are tiny capsules, much smaller than bacteria that contain genetic material; viruses cause infections that can lead to sickness. People can pass viruses to each other. They are present in the stool or vomit of people who are infected. People who are infected with a virus may contaminate food and drinks, especially if they do not wash their hands thoroughly after using the bathroom (Clinical Infectious Diseasess, 2009).

2.10.2.1. Common Sources of Foodborne Viruses

Common sources of Foodborne Viruses include (British Medical Journal, 2010)

- Food prepared by a person infected with a virus.
- Shellfish from contaminated water.
- production irrigated with contaminated water.

2.10.2.2. Common Foodborne Viruses

Common foodborne viruses include (British Medical Journal, 2010)

1. **Norovirus**: This virus causes inflammation of the stomach and intestines.
2. **Hepatitis A:** It causes inflammation of the live.

3. **Parasites**: They are tiny organisms that live inside another organism. In developed countries such as the United States, parasitic infections are relatively rare.
4. **Cryptosporidium parvum and Giardia intestinalis**: These are parasites that are spread through water contaminated with the stools of people or animals that are infected. Foods that come into contact with contaminated water during growth or preparation can become contaminated with these parasites. Food preparers who are infected with these parasites can also contaminate foods if they do not thoroughly wash their hands after using the bathroom and before handling food.
5. **Trichinella spiralis**: This is a type of roundworm parasite. People may be infected with this parasite by consuming raw or undercooked pork or wild mn

2.10.3 Chemicals Harmful

The chemicals that cause illness may contaminate foods such as

1. Fish or shellfish, which may feed on algae that produce toxins, leading to high concentrations of toxins in their bodies. Some types of fish, including tuna and mahi mahi, may be contaminated with bacteria that produce toxins if the fish are not properly refrigerated before they are cooked or served.
2. Certain types of wild mushrooms.
3. Unwashed fruits and vegetables that contain high concentrations of pesticides (Facts from niddk.nih.gov health-information, foodborne illnesses Page).

2.11. Who Gets Foodborne Illnesses?

Anyone can get a foodborne illness. However, some people are more likely to develop foodborne illnesses than others, including (Foodborne Diseases Active Surveillance Network sites, 2000–2006):

1. Infants and children.
2. Pregnant women and their fetuses.
3. Older adults.
4. People with weak immune systems.

These groups also have a greater risk of developing severe symptoms or complications of foodborne illnesses.

2.11.1 What Are The Symptoms of Foodborne Illnesses?

Symptoms of foodborne illnesses depend on the cause. Common symptoms of many foodborne illnesses included (British Medical Journal, 2010):

1. Vomiting.
2. Diarrhea or bloody diarrhea.
3. Abdominal pain.
4. Fever.
5. Chills.

Symptoms can range from mild to serious and can last from a few hours to several days (Foodborne Diseases Active Surveillance Network sites, 2000–2006).

2.11.2 Chemicals That Affect The Nervous System

Botulinum and some chemicals affect the nervous system, causing symptoms such as **(**British Medical Journal, 2010**)**

1. Headache.
2. Tingling or numbness of the skin.
3. Blurred vision.
4. Weakness.
5. Dizziness.
6. Paralysis.

2.11.3. How Are Foodborne Illnesses Treated?

1. The only treatment needed for most foodborne illnesses is replacing lost fluids and electrolytes to prevent dehydration.
2. Over-the-counter medications such as loperamide (Imodium) and bismuth subsalicylate (Pepto-Bismol and Kaopectate) may help stop diarrhea in adults.
3. However, people with bloody diarrhea—a sign of bacterial or parasitic infection—should not use these medications.
4. If diarrhea is caused by bacteria or parasites, over-the-counter, prolong the problem.
5. Medications to treat diarrhea in adults can be dangerous for infants and children and should only be given with a health care provider’s guidance.
6. If the specific cause of the foodborne illness is diagnosed, a health care provider may prescribe medications, such as antibiotics, to treat the illness.

7. Hospitalization may be required to treat life threatening symptoms and complications, such as paralysis, severe dehydration, and HUS.

2.11.4. How To Relieve The Symptoms of Foodborne Illnesses

2.11.4.1. First In Adults

The following steps may help relieve the symptoms of foodborne illnesses and prevent dehydration in adults (Reactive arthritis in emergency medicine)

1. Drinking plenty of liquids such as fruit juices sports drinks, caffeine-free soft drinks, and broths to replace fluids and electrolytes.
2. Sipping small amounts of clear liquids or sucking on ice chips if vomiting is still a problem.
3. Gradually reintroducing food, starting with bland, easy-to-digest foods such as rice, potatoes, toast or bread, cereal, lean meat, applesauce, and bananas.
4. Avoiding fatty foods, sugary foods, dairy products, caffeine, and alcohol until recovery is complete.

Infants and children present special concerns. Infants and children are likely to become dehydrated more quickly from diarrhea and vomiting because of their smaller body size. (Sato, 2007)

2.11.4.2 Second In Infants And Children

The following steps may help relieve symptoms and prevent dehydration in infants and children (Reactive arthritis in emergency medicine)

1. Giving oral rehydration solutions such as Pedialyte, Naturalyte, Infalyte, and Cera Lyte to prevent dehydration.
2. Giving food as soon as the child is hungry.
3. Giving infants breast milk or full strength formula, as usual, along with oral rehydration solutions.
4. Older adults and adults with weak systems should also drink oral rehydration solutions to prevent dehydration.

CHAPTER III
FOOD SAFETY IN LIBYA

3.1. Geographical Location of Libya

Libya, a North African country, lies along the southern coast of the Mediterranean, approximately between latitude 18°and 33°North and9°and 25°East. Its total area is about 1,759,540 k. of which more than, 90% are desert. Most of the agricultural activities are limited to a long narrow strip along the Mediterranean coast, low mountains and scattered oases in the desert. It has 7.5 million population .

The prevailing climatic conditions are typical of the Mediterranean region characterized by variability and unpredictability. The rainfall is erratic in quantity, frequency and distribution. On the basis of climate and soil conditions, four agricultural regions are recognized as shown below

- **The coastal belt** :It is a narrow strip with a width varying between 5 and 25 km along the sea. However, the and , in the west plain extends to a distance of more than 100 km in the form of an arc to form what is known as the Jeffara plain. The average rainfall there is 200-250 mm. Supplementary irrigation, using underground water, is a common practice in this area. Future expansion of irrigation using underground water is very restricted due to the lowering of the water table (1 to 5 m/year) and sea water intrusion. The soil in the western part is sandy or sandy loam very low in nitrogen and organic matter contents with neutral toewq987654321`- slightly alkaline reaction, while soils in the eastern part are heavier, mainly sandy loam to clay loam.

- **Low mountains:** There are two distinct and geographically separate low mountain areas located immediately south of the coastal belt, one in the eastern part known as Jabal Al Akhdar, and the other in the western part known as Jabal Al Gharbi. These mountains are generally rocky and stony and intercepted frequently with many wadis (rivers). The average rainfall in Jabal Al Akhdar ranges between 250-600 mm, the soils are terra-rossa or heavy clay. In Jabal Al Gharbi the average rainfall is much less, ranging between 200 and 300 mm. The soil IS much lighter and variable than those of Jabal Al Akhdar (Perrino, P., Poligano, G.B., Hammer, H. and Lehmann, C.O).

- **Semi-Desert areas**: They are located immediately south and parallel to the Jabal regions. The average rainfall varies from 50 to 150 mm, and it is LIBYA country report 6 used mainly for grazing. However, some primitive agriculture is still practiced by the nomads in the wadi beds.

- **The Desert**: Consisting of sand dunes and gravely barren, rolling hills on plains. Rainfall is almost none existing. Agriculture is confined to a few scattered oases. Recently, due to the discovery of vast quantities of underground water in some parts of the desert area, some government sponsored agriculture projects have been established, aimed at reclaiming the land and settling the nomadic people. This has resulted in bringing about 100 thousands of hectares under permanent irrigation.(Rahman, M, Fituri.2000)

3.2.The History of Libya's Agricultural Development

The history of Libya's agricultural development has been closely related, although inversely, to the development of its oil industry. In 1958, before the era of oil wealth, agriculture supplied over 26 percent of GDP, and Libya actually exported food. Although gross levels of agricultural production have remained relatively constant, increasing oil revenues have resulted in a decline in agriculture's overall share of national income. Thus, by 1962 agriculture was only responsible for 9 percent of GDP, and by 1978 this figure had tumbled to a mere 2 percent. Even more striking than the downward trend in agriculture's share of GDP was the rise in food products .imports. In 1977 the value of food imports was more than 37 times greater than it had been in 1958. Therefore, a large part of the rising oil wealth between 1960 and 1979 was spent on imported food.

To some extent, these trends were neither surprising nor disturbing. Libya's comparatively strong agricultural position in 1958 masked an even greater level of general poverty. Agriculture during the 1950s was characterized by low levels of productivity and income. The advent of oil wealth provided many peasants with opportunities to engage in less exacting and more remunerative work in the urban areas, resulting in a huge rural migration to the cities. In addition, Libya is not well endowed with agricultural resources, over 94 percent of the land consists of agriculturally useless wasteland. The large number of people engaged in agriculture prior to 1960 reflected,

therefore ,it was not a thriving agricultural economy but merely the absence of attractive alternatives.

Since 1962 Libyan governments have paid more attention to agricultural development. The government has given inducements to absentee landlords to encourage them to put their lands to productive use and initiated high agricultural wage policies to stem the rural-to-urban flow of labor. These policies met with some success. Production levels began to rise slightly, and many foreign workers were attracted to the agricultural sector. Agricultural development became the cornerstone of the 1981-85 development plan, which attached high priority to funding the GMMR project, designed to bring water from the large desert oasis aquifers of Sarir and Al Kufrah. Agricultural credit was provided by the National Agricultural Bank, which in 1981 made almost 10,000 loans to farmers at an average of nearly LD1, 500 eac The substantial amounts of funds made available by this bank may have been a major reason why so many Libyans--nearly 20 percent of the labor force in 1984- chose to remain in the agricultural sector (Aquiteen, 1985).

Despite the greater attention to agriculture, however, in 1984 this sector only accounted for about 3.5 percent of GDP, and Libya still imported over 1 million metric tons of cereals (up from 612,000 metric tons in 1974). Also in 1984, the average index of food production per capita indicated a decline of 6 percent from the period 1974 to 1976. On the average, about 70 percent of Libya's food needs were met by imports during the mid-1980sh.

3.3.The Food Industry In Libya

Libya is a consuming country where there is no agricultural activity to meet the requirements and needs of the citizens, this is reflected in the operating in the food and food processing establishments, where the sector is affected and missed the local market product there are several economic factors and the absence of policy planning, which it is possible to contribute to the renaissance of the food industry in order to achieve self-sufficiency of the citizen and the Libyan market.

Due to the situation in Libya and the lack of political stability of this disorder is reflected in the various areas of public life and spread to the Libyan government's role in consumer protection through legislation on the organization of the market, production and import of foreign markets, and so on.

An important factor is the lack of competition between domestic and imported product in the absence of government incentive policies as well as competition among food factories and institutions that seek to make a profit in the consumer market, such as the Libyan market.

Nevertheless, there are some plants that operate in related to food production such as dairy factories areas, but they are modern and sophisticated factories and are not considered compared with the market need for this kind of products, the absence of encouragement and development of the consumer for the local product and preference for foreign products and the reluctance of workers, Yum helps the food industry in the promotion and development for the play required in the local market which it was possible to take into account this local product desires and habits of food consumers and which can be controlled and monitored by the regulatory and legislative system role. (Faraj, I., Missaoui and others, 1999)

3.4. Factories And Companies Importing Or Exporting Food In Libya

3.4.1. Company Globe

Company globe is an integrated poultry operation. The Globe works with hatching in Benghazi and commercial broiler farms in both Benghazi and Tripoli.

Reports stated that 691 200 egg hatches the globe in weeks at full capacity. It is getting all hatching eggs from the European Union. The globe has 14 farm businesses with the capacity of 45,000 birds in Tripoli and Benghazi on 23 farms. Now this year will be commercial farmswill double the capacity. All the poultry houses we have are environmentally controlled barns with the latest technology and full automation equipment.

At present, the marketing of all the birds that are produced in commercial farms live in the local market. Also it has world class commercial farms for eggs both in Tripoli and Benghazi. There are about 15 commercial layer farms with a capacity of 50,000 birds each. Currently the world and expand the layer by 250,000 the ability of a bird that has been staring work and project will be completed by November 2013. All of these farms are also under the control of environmentally poultry cages with houses of the Automated System for the collection of eggs. And consume all your eggs in the local market with our own brand, and packaging. On the front feed all commercial farms we have all of the layers and broiler care of by special feed our plants developed in Tripoli

and Benghazi are taken. On the front of vertical integration in poultry, and farmers and slaughterhouse projects under implementation will be in operation by 2014. The deal with the huge project by a team of professional people at all levels of poultry. (Faraj, I, Missaoui, 2014)

3.4.2. Alryhan Company

Basil Company developed from the beginning of its activity

1. The beginning of Activity Basil Company was in 1989 to production of halva candy.
2. Trend began to produce natural juices in 2000 with the opening of the juice factory in Boatni area where they were contracted with Tetra Pak to supply packaging machinery as well as the pasteurization devices. Sterilization was launched in the production of juices (bottles and paper) with a capacity of 1000 ml and 250 ml.
3. In 2004, which the introduction of comprehensive quality systems and food safety even basil product arrives in the best possible quality for the consumer inside throughout the dear homeland.
4. In 2008 it was the opening of a new plant for the production of juices and dairy where he was providing sterilized milk containers with a capacity of 1000 ml and 200 ml and the provision of different types of milk, as well as flavored milk to the consumer with high quality.
5. The company Basil is one of the largest food industry companies in the MENA region in the field of juices and dairy products and is the pride of the Libyan national industry.
6. Basil is committed not to use any protectives or artificial colors in their products to ensure the health of the consumer.
7. The company also ensures that its products contain the natural juices of the highest percentage of fruit of nature, and the use of the best and finest types of milk powder in the production of different types of milk for of consumer health.
8. The company's products are varied between types of halva candy - juices - milk - flavored milk . Below are some of the productions
    - **Halva candy** pillow - pistachio - almond - chocolate sizes ranging from 1800 grams and up to 230 gm.

- **juices** grapes - orange - peach - pineapple - mango - the problem of fruit - oranges and carrots and lemon - apple - guava - pear - Cocktail sizes 1000 ml and 200 ml.
- **Milk** Full-fat - half creamy - skimmed 1000 ml sizes.
- **Flavored milk** vanilla flavors the pshicy of the Basil company is to contribute quality food industry

3.4.3. The Branches of Basil Company

The Company works on tribute to the food industry is committed to providing its customers requirements in all its products, including comparable to or exceed their expectations.

3.4.4. Senior Management of The Company

It is committed to working comprehensive food safety and quality management systems that is compatible with the requirements of the quality management systems of food ISO & HACAP and safety (ISO 9001 2008 & ISO 22000 2005)

- Basil company is committed to have all its products tested thoroughly to make sure they conform to all applicable standards and that any deviation in the completion of these expectations will be reviewed and will be a positive sign in the continuous improvement of the system of work at the company process.
- Basil company take into account the receipt of this policy to all employees of the company to make sure it is carried out with a clear understanding of the objectives of the company, consisting of administrative units in order to continue to continuous improve in all aspects of work in the company's policy.
- Basil Company bearing in mined the ongoing review of the indicators of quality and food safety to ensure that appropriate policy variables, as well as local and international regulations and legislation.
- Basil is committed to dealing with the best of the world's leading companies and global suppliers and keep up with the finest technology in the field of work in order to reach satisfy customers .- Nutty Chocolate - caramel - strawberry - banana sizes 200 mgzx

3.5. Hawary Foodstuffs (Imp & Exp)

Hawari food (Imp & Exp) Co., Ltd. is a Libyan company operating as an importer and exporter of different kinds of food. The company deals with major food companies in the world and enjoys the quality of its products.

Hawari, which was established in 1992 in the city of Benghazi in Libya, is a market named Arab market. There is a spread of whole sale halls in all the cities of Libya from 1999on wards. Hawari is to provide all market needs of local materials of high quality food.

As a result of the expansion of employment and increasing demand it was necessary to double the activity to meet the demands of the market. Hawari has become one of the largest national companies working in this field since 2003; the company has its own commercial agencies with high-quality brands in food.

The main goal is to contribute and increase national economic growth and to support the local production at the same time provide the highest level of high-quality food. For Libyan market.

3.6. Company Alasal For Food Imports

Authenticity of imported food, and fruits, Ltd. was founded in 18-11-2007 Christian, number commercial register in 2588, and No. Chamber of Commerce in 4462, and the license number 53 023, despite the novelty of the company, but she was able to contract with a number of specialized enterprise in the production and packing of dry food and fruits Enterprises in the world and enjoying high-quality products and health uninterrupted, with some other activities like

- The company is supplying food and dry fruits to oil companies and their locations, and industrial and construction companies and hotels.
- The company has a fleet of vehicles equipped and diverse to transport and distribution of food.
- The company's store on Airport Road is equipped according to the health and technical specifications such as temperature, humidity, ventilation and that helps to store food both according to their nature to, in the interest of the company that the product reaches the customer in a very good state of health.
- One of the goals of the company is to make sure that there is a high quality product, both in terms of health or food standards in addition to the right price.

The company is committed to the application of the quality management system and food safety, it also keeps track of everything new in the import of food and fruit to develop this system.

- Search to secure various sources of food, whether from the Arab markets, European or Asian, taking into account safety, quality and lower prices.
- It is on continuous improvement in quality and food safety and operational performance management system down to reduce service costs to increase competitiveness and expand marketing opportunities and customer satisfaction.
- The Company also works on identifying the customer's wishes always to ensure that the service performed to meet their needs and expectations.
- Not only has that but the company also applied the new application of rigorous system of controls on food safety in order to achieve the requirements of local and international specifications.
- The Company leads on the development workers with continuous training and upgrading the skills of their performance.
- It is also Provides appropriate conditions and services for employees to increase affiliation and cooperation in the application of quality and the achievement of quality and food safety objectives of the systems.
- The formulation of our goals on a regular basis and consider the end of each goal beginning of a new goal.

3.6. The Regulation of Food Laws in Libya

- Food trading is prohibited if it is unfit for human consumption or was adulterated or not conforming to specifications prescribed.
- The food is not valid human consumption if they are harmful to health or was corrupt or damaged.
- The executive regulations of this law when considered harmful to health and food are considered corrupt or corrupted or adulterated.

- Food circulation in every step should be free of substances harmful for health.
- It may be a decision of the Minister of Health to determine the upper limit which allows the presence of these substances in limited varieties of food or its veins.

- Food must be locally manufactured or imported or stomach disease germ-free for export.

- It may be a decision of the Minister of Health to determine microbial standards (bacteriological) for these nutrients or some of them and put health requirements to be met in some foods.

3.6.1 Laws On Milk And Milk Products

- The allowed milk is cow's milk, goats, sheep and camels and may not be traded milk mixture different types of dairy cattle.
- It may be a decision of the Minister of Health to allow the circulation of milk and other livestock.
- It prohibits the sale of milk and its derivatives, or something of that display or possession with a view to clean fresh retains all its natural properties. It talked about the Executive Regulations health requirements and specifications and physical properties to be met in the milk of dairy cattle in the milking and in places, tools and vessels in which the trading of milk and milk products and in the workers With the exception of meat.

3.6.2 Laws Relating To Meat

- It may not be the slaughter of animals with a view to selling their meat, but in general the massacres and the slaughter in those where there is no public massacres in places designated by the Ministry of Health, and must meet the massacres and places of sale of meat and their means of delivery and health requirements in the executive regulations of this law, it turns out this regulation Health inspection procedures and conditions for the slaughter of animals for their meat prepared for sale, and what follows on the meat of which is controlled slaughtered outside the massacres and places mentioned.

3.6.3 Laws Relating To Workers in the Field of Food

- Those who are working in areas directly related to food must be free from infectious diseases and not in possession of their causes.
- Such persons shall be subject to medical detecting them periodically to ensure their safety and health. They should be free from infectious diseases and their causes, and show the executive regulation of medical tests to be conducted on them to make sure they are free from that and dates made.

- They should be licensed them to open food and beverage stores, and those responsible for the administration to rule out any factor works have proved his illness one of the infectious diseases or be a carrier of the causes to heal or becomes pregnant for the pathogen, according to what indicated in the executive regulations of this law.

3.6.4 Special Laws for the Environment of Food

- The purity of the human environment and protection of the basic components of the safety of the community.
- Prohibits any action which leads to pollution of the environment, threatening public health.
- We must work to ensure that air, water, housing, safety and all the related whole, which affect human health.
- We need to regulate the executive regulations of this law on the Health Affairs environment, namely as
    1. The inspection and monitoring of cleanliness of hotels and sleep shops, restaurants, cafes and shops harmful to health and disturbing to rest, and other public places.
    2. Health requirements in bathing beaches and in the bathrooms, public toilets and monitor health.
    3. The discharge of waste water and dirty materials and remnants of factories and plants and disposal.
    4. Filling the ponds, swamps and any stagnant water and dried.
    5. Health requirements to be met by buildings.
    6. Homes and fields, public roads, public parks and land space within cities.
    7. Garbage collection and disposal, and the transfer of housing and other waste and sewage.
    8. Ensure the hygiene in public transport of people and goods.
    9. Prevent all that is harmful to health, whether caused by dirt or animals or any other reason.

3.7. FAO in Libya

The Food and Agriculture Organization of the United Nations "FAO" reported today that the dimensions of the current crisis in Libya on food security, a cause of great

concern to both Libya and surrounding countries, due to the region's dependence on imports of grain and can be caused by complications from a disability the flow of goods and services and the movement of population d The expert Daniele Donati, head of emergency management operations of the Organization "FAO", states that "the continued likely to strongly affect the security of Libya food and nearby areas affected also the crisis. In Libya, may lead the conditions of the crisis to an abrupt obstruction to the movement of imports and the collapse of the internal distribution system.
The depletion of stocks of food stocks and loss of rural manpower are all factors that can in the long run that sense the gravity of the region. "

Related to that threaten to disrupt markets that ensures farmers get through their needs of seeds and fertilizers, agricultural production and food security and income-generating activities in the short and medium term, according to the Organization "FAO".

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CHAPTER IV
FINDING

This chapter deals with identification of the research method which was used in this study, through the review and determination of the search area community and the research sample in addition to the research variables and methods of measurement and the method of data collection and analysis.

4.1. Research Area

The Study was carried out at Near East University in Turkish Republic of Northern Cyprus, the university is one of the biggest universities on the island, where the number of students enrolled (when conducting this research) more than

the number of 22,000 students, they are study in various disciplines and levels like the Colleges of Continuing Studies, Bachelor programs, Master's and other postgraduate studies. The university has many fields of studies includes theoretical studies and applied studies which cover most of the disciplines of medical and engineering studies and social sciences such as administration and the economy, the environment, literature and other studies of disciplines.

4.2. The Research Community and the Sample

This research included all Libyan students who are studying at Near East University. Those students represented in this research as a sample layer have the opportunity to complete their higher studies outside Libya. And due to the large number of this research community (which represented those students who have the opportunities to study outside of Libya) it has been taking a stratified random sample Stratified Random. The researcher has distributed an experimental sample of a questionnaire to 10 students for the purpose of arbitration and error correction rate and review by admin on search. Then the researcher distributed 300 questionnaires on the selected sample as a subject of the study, and analysis was not to exclude any identifying where the respondents complete the information recorded in the questionnaire distributed for the purposes of scientific research without the proportion of errors.

4.3. The Research Variables And Methods of Measurement

1. Gender two values Male = 1 or Female = 2.

2. Age There are five levels as follows: 17-19 = 1, 20 - 22 = 2, 23 – 25 = 3, 26 - 28 = 4. 29 - 36 = 5.
3. Income per Month means the family monthly income in dollars, also it has five levels as following: Less than 500 = 1, 500 - 750 = 2, 751 - 1000 = 3, 1001 - 1500 = 4, more than 1,500 = 5.
4. Monthly exchange level means the monthly exchange dollars for a family, and came in five levels as follows: Less than 200 = 1, 200 - 400 = 2, 401 - 600 = 3, 601 - 800 = 4, more than 800 = 5.
5. Over the awareness of diet-health sense two values Yes = 1 or = 2.
6. Necessary knowledge of food safety question take one of the two values Yes = 1 or = 2.
7. Degree and the amount of attention to food safety, it has four levels as following intense interest = 1, Interested = 2, little attention = 3, not interested = 4.
8. For the sources of data and information referred to food safety it took the following: values radio and television = 1, newspapers and magazines = 2, books and journals = 3, friends and acquaintances = 4, experts and workers in the food field = 5, Other (specify please) = 5 , I do not know = 6.
9. The opinion on modified foods genetically and the knowledge of their risk on health, the answer level took one of the following two values Yes = 1 or = 2.
10. Mentioned in the previous question regarding if the answer is yes, what is the source of those dangerous, answer were classified to this question as follows because of the causal factors of cancer = 1, because they cause damage genes = 2, because they cause environmental damage = 3, because they lead to hormonal disorders = 4, Other (specify please) = 5.
11. Food safety systems may include classification as follows Institution for Standards and Metrology Turkish (TSI) = 1, the International Organization for Standardization measurements (ISO) = 2, risks and Analysis Critical Control Point (HACCP) = 3, the European good agricultural practices (EUROGAP) = 4, I do not know = 5.
12. The reasons for which the students think that organic products are better than GM products, the answer was rated the options as follows free of hormones = 1, does not have an impact on health = 2, grown without the use of chemicals and pesticides = 3, using the hydroponics method = 4, other (specify please) = 5.

13. The researcher asked a question about which is better for the respondentss in terms of packaging when buying food products, and the answer was classified as follows coated products = 1, coated products is = 2.
14. As for the impact of a range of factors related to packaging, affecting these respondents when they buy a product such as conservation in a healthy and sound, quality standards, storage, classification may be included, and the answers have the following levels the packaging has no affect at all = 5, affects a little = 4, has affects = 3, high-impact = 4, high-impact strongly = 5.
15. The attention to read the preamble affixed food students answers were classified as follows Do not care at all = 5, rarely = 4, 3 = sometimes, often = 2, always = 1.
16. The question to the respondents behaviors when they buying food items such as ingredients, net weight, date of production and expiration date, matching international standards, the product and the brand name, the validity period, additions, nutritional value, storage and preparation conditions, to get rid of the surplus in a sign trash and other, questions classification came as follows Do not care at all = 5, rarely = 4, 3 = sometimes, often = 2, always = 1.
17. A question on the injury to the respondents or any members their family food poisoning and their causes, the classification of the question came as follows expired = 1, products with waste = 2, the products are not maintained according to the instructions on the packet = 3, other = 4.
18. Another question on what action carried out by the Respondents in case of food poisoning, and the classification of the questions as follows go to the nearest health unit = 1, taking a sample of a meal and keep them with the product = 2, Go to the competent authorities for the control food safety and attach a sample report extracted from the Health Unit = 3, all of the = 4, 5 = other.
19. And the regulator responsible for food safety researcher designed the following answers institutions and official bodies = 1, the owners of food products = 2, distributors and resellers = 3, consumers = 4, other factories (specify please) = 5.
20. The researcher put a question about the extent of food safety in Libya, the classification of the questions as follows I believe that food safety is not sufficient = 1, I find that the controls and audits are inadequate = 2, I have no idea = 3.
21. the researcher asked what the relevant food safety that concerned the respondents such as additives and productive related things, transmission of bacteria, with the gene products of genetically modified, freezing and storage, radiation, diseases

such as mad cow and avian flu, hormones, antibiotics and chemical residues in plants, animals or any of the concerns that the respondents sees his priority when dealing with food safety, and classification of answers came as follows very little = 5, few = 4, many = 3, more = 2, much more = 1.

22. Another question about the reliability of some food as nutrients, and the classification of the answers came as follows very little = 5, few = 4, many = 3, more = 2, much more = 1.
23. The researcher asking a number of questions to knows the opinion of the respondents about many topics related to food safety, and classification of the answers came as follows I agree = 1, Undecided = 2, I do not agree = 3.

4.4. Method of Data Collection

It was taken into account the use of a questionnaire that includes all the questions that achieve the objectives of the research and would be conducted by a test validity and reliability. The form contained general information relating to the social, educational and economic characteristics of respondents and sources of information on how to deal with problems related to food safety, as well as the appropriate methods to deal with these problems, such as methods of food preservation and storage, as well as to identify the level of knowledge among respondents damage and health problems, beside identifying the extent of knowledge of the importance of the opinion of the respondents and the ways to buy and food preservation. The questionnaire was presented on the main supervisor of the research, so as to clarify what it may involve resolution of questions insufficiency or ambiguity to be adjusted to achieve the objectives of the research. The amendment by deletion and addition or re-drafting the questionnaire that has taken its final form

4.5. Data Analysis

The use of standards metadata (averages, standard deviation) in addition to the frequencies and percentages in order to display the respondents properties, and use the Likert scale to measure respondents attitudes towards the use of the methods of dealing with food and methods of storing, was used simple correlation coefficient of Pearson (Person correlation coefficient) to figure out the relationship connectivity between some of the social, educational and economic characteristics of respondents and some research variables subsidiaries, and analysis of multiple regression gradual upward Step wise Multiple Regression Analysis (Forward Solution) to explore the most important

determinants of methods of food preservation, which is the dependent variable and calculated collect grades mouthpiece of the extent of knowledge of proper sanitation methods, using statistical analysis (SPSS) program . The question that contains subset questions will be analyzed as one question at one table, like one hypothesis.

Descriptive statistics will be extracted through frequency tables and their graphs, and measures of central tendency and dispersion (mean and standard deviation) for each question to compare it with the weighted average private ordinal variables. The sincerity and reliability coefficient was calculated for the whole data. And use as well as parametric or nonparametric tests in the light of the approach. Dividend axes of natural distributions using Kolmujrov Smirnov test (Kolmogorov) and included parametric tests when distributions study axes of natural distributions approach one-way analysis of variance test (ANOVA) to compare the three averages and more and test v (t-test) for comparison between the two means. Also included non-parametric tests when you do not approach the scale of natural direction distributions, Kroskal- Wallis test (Kruskal-Wallis), which is equivalent to a test of variance analysis and test Mann - Whitney (Mann-Whitney) which is equivalent to t test.

4.6. Tools Used To Collect Information and Data

4.6.1.The Questionnaire

- The study relied on questionnaires closed data, has included a two-part questionnaire of questions. The first part included personal information on the characteristics of the sample (personal questions) as the type, level and course of education, age group, the average monthly income in addition to the monthly exchange rate.
- The second part has involved a series of questions about the know-how and proper awareness of the health system and the extent of the seriousness of some of the production systems and food preservation, and also included the extent of interest the information written on the canned food as weight, ingredients and shelf life.
- also included the second part of the questions over the know-how of the steps that must be followed in case of food poisoning, and what is the quality of food that are frequently relied upon by the respondents, if they prefer or canning, food, dried, frozen fresh food, and whether that is actually the consumption of

substances that It deems appropriate or be forced into a consumer pattern imposed upon by the specific circumstances.

- Due to the different languages spoken by the respondents, the researcher designed questionnaire in Turkish and in Arabic in order to facilitate the mobilization of the questionnaire without hoc basis for translation and assistance in understanding the questions.
- The choice of the number ten forms an experimental sample of the study population to test their understanding of the respondents to the questions contained in the questionnaire by five forms in Turkish and the other five in Arabic were answered all without errors 0.0%.

4.6.2. Benchmarks

The researcher used the Likert scale five-grade Likert scale to measure trends, which gave five degrees to OK strongly OK to four degrees and three degrees of the value of the neutral and non-corresponding to two degrees and the degree corresponding to the non-strongly. There are passages of positive content and other relevant content of the negative, where given paragraphs with positive content gradual signs of 5 to 1 for answers OK strongly to strongly shows, while given the paragraphs of the negative content graded marks from 1 to 5 answers OK strongly to shows strongly.

To measure of stability Reliability test to measure the internal consistency of the scale of the study. Cronbach's alpha coefficient reached 0.90 macro-scale, and Cronbach's alpha coefficient ranged between values of 0.77- 0.62 Sub-axes as the table shows (2), which refers to the internal consistency of the scale of the study. The coefficient alpha values equal to 0.60 satisfactory when or superiority (Springer et al. 2000, Sekaran ,1984).

4.6.3. Sample Selection (study population)

The study population of students studying in the Near East University in Northern Cyprus in a closed sample on Libyan students in various university and specialized levels made up, and the number 300 students.

Characterized sample community easy access to their members because of closed sample on the student community within a defined geographical area for being, has stated (Moser and Kalton, 1979) stated that in the event of the determinants affecting the sample, such as economic cost, time and personal determinants of the size, it should

take care in the selection of the sample, and choose the larger random sample possible. Based on this, the researcher chooses the sample of Libyan students due to the difficulty of access to Libya to conduct the survey there.

The researcher took into account the different language spoken by the sample community which is the Arabic language and that is different from the academic language used in teaching the university which is English, so the researcher designed the questionnaire in English and Arabic in order to facilitate the process of understanding the questions The answer is clearly no-hoc basis for the translation and explanation by the researcher during the mobilization of the questionnaire model in order to avoid the impact of the respondents.

CHAPTER V
STATIC ANALYSIS

5.1. Reliability

Simply, a reliable measurement is observation of the same result measurements when repeatedly measure the same unchanged objects or events. If a measuring instrument were perfectly reliable, then it would have a perfect positive (r = +1) correlation with the true scores. Theoretically the measurements contain **random error**, but that the mean error is zero. That is, some measurements have error that make them lower than the true scores, but others have errors that make them higher than the true scores, with the sum of the score-decreasing errors being equal to the sum of the score increasing errors. Accordingly, random error will not affect the mean of the measurements, but it will increase the variance of the measurements (General Intelligence, 15, 201-293).

To conduct a stability test questions for the questionnaire we used a reliability coefficients such as Split half coefficient or retail midterm or Cronbach's Alpha, Reliability coefficient takes values ranging between zero and one right, If there is no stability in the data parameter value to be equal to zero, and on the contrary, if there is complete stability be the parameter value is equal to true one. When the value of reliability coefficient closer to true one it will be considered as high stability and low stability whenever it approaches to zero.

5.1.1. Reliability of the Questionnaire

In the first the researcher made the reliability test for all the questions of the questionnaire, and then the researcher repeated again the reliability test for random choice of some questions from the questionnaire as shown below

5.1.1.1. Reliability of All the Questions of the Questionnaire

The below tables the reliability for all the questions the valid answers of questions are 277 which is 87.7% from all the total forms, and the excluded ones List wise deletion based on all variables in the procedure are 39 which is 12.3% from the total forms which are 316 as shown in table (1). Statistics are based on all cases with valid data for all variables in the procedure. The Definition of Missing values are treated as missing.

Table1 Case Processing Summary

		N	%
Cases	Valid	277	87.7
	Excludeda	39	12.3
	Total	316	100.0

a. Listwise deletion based on all variables in the procedure

Clarify the tables Cronbach's alpha coefficient for each questionnaire phrases = 0.594 which is high and positive signal to the questionnaire phrases as shown in appendix B, the increase value of Cronbach's alpha coefficient means increasing the credibility of the data. That measures the scale of what has been developed to measure.

5.1.1.2. The reliabilities of the questionnaire according to classification questions

The questionnaire was classified in two parts, the first is the personal questions, and the second part is for hypothecs questions, the table below show the reliability of the questionnaire due to these two sections

Table2 Reliability of the basic questions

		N	%
Cases	Valid	313	99.1
	Excludeda	3	.9
	Total	316	100.0

a. Listwise deletion based on all variables in the procedure

The reliability for the basic questions showed that the valid answers of questions are 313 which are 99.1% from all the total forms, and the excluded ones List wise deletion based on all variables in the procedure are only 3 which is 0.9% from the total forms which are 316 as shown in table (2). Statistics are based on all cases with valid data for all variables in the procedure. The Definition of Missing values are treated as missing.

5.1.1.3 The reliability of the hypothecs questions

Table3 Reliability of the hypothecs questions

		N	%
Cases	Valid	278	88.0
	Excludeda	38	12.0
	Total	316	100.0

a. Listwise deletion based on all variables in the procedure

The reliability of the hypothecs questions showed that the valid answers to questions are 278 which are 88% from all the total forms, and the excluded ones List wise deletion

based on all variables in the procedure are only 38 which is 12% from the total forms which are 316 as shown in table (3). Statistics are based on all cases with valid data for all variables in the procedure. The Definition of Missing values are treated as missing.

5.1.1.4 Some examples of reliability of some random questions of the Questionnaire

5.1.1.4.1 Reliability for monthly household and monthly exchange

Table 4 Reliability of the monthly household and monthly exchange

		N	%
Cases	Valid	314	99.4
	Excludeda	2	0.6
	Total	316	100.0

a. Listwise deletion based on all variables in the procedure.

The reliability of the monthly household and monthly exchange questions showed that the valid answers to questions are 314 which are 99.4% from all the total forms, and the excluded ones List wise deletion based on all variables in the procedure are only 2 which is 0.6% from the total forms which are 316 as shown in table (4). Statistics are based on all cases with valid data for all variables in the procedure. The Definition of Missing values are treated as missing.

5.1.1.4.2 Reliability for question number 7 and question number 8

Table No 5. Reliability for Q7 and Q 8

		N	%
Cases	Valid	314	99.4
	Excludeda	2	0.6
	Total	316	100.0

As shown in table (5) the reliability test showed that the percentage of the reliability is 99.4% which is 314 answers from the questionnaires who answer this question but the excluded are only 2. Statistics are based on all cases with valid data for all variables in the procedure.

The Definition of Missing values are treated as missing. The Note from the previous three examples with regards to reliability the questions in the questionnaire were less than the number of questions that have been compared in the private test questions accurately. In the first test it was compared to all the questions in the questionnaire.

The results showed an increase in the number of forms at the errors which reduced the accuracy of the results, while the second and third examples showed greater accuracy ratio for the limited number of questions testing the procedure. In general, we find that the questionnaire is characterized by precision in the questions posed by an acceptable error and reliable form.

5.2 Frequencies

The Frequencies procedure can produce summary measures for categorical variables in the form of frequency tables, bar charts, or pie charts. This command is used to obtain counts on a single variable's values.

5.2.1. Frequencies for gender, age and education

Table 6 Frequencies for gender, age and education

	Gender	age	education	level	AVG income
Valid	314	314	314	313	314
Missing	2	2	2	3	2
Mean	1.34	4.25	1.71	2.78	3.13
Std. Deviation	0.476	0.865	0.755	1.097	1.207

Researcher seeks through frequencies to test knowledge of main data on those who have been the form they distribute; those questions have included all of the age, gender and academic level and monthly income of the family.

The total number of forms is 316, the missing forms for both gender and age are two, and for the level of education is two but for education type and specialist there were three forms, and for monthly household income level there were two forms.

5.2.2. Frequencies for gender

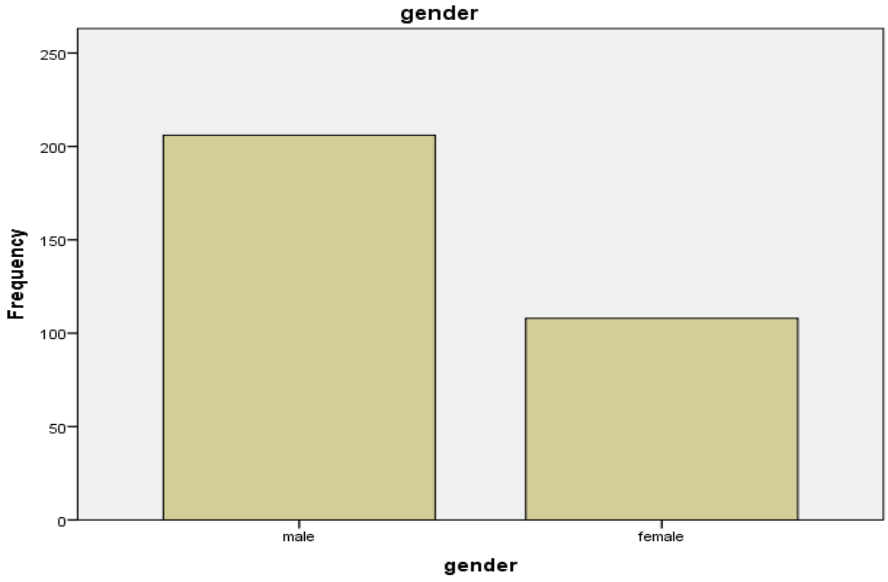
Table7 Frequencies for gender

		Frequency	Percent
Frequencies for gender	male	206	65.2
	female	108	34.2
	Total	314	99.4
	System	2	0.6
Total		316	100.0

The number of males in the sample was 206 from the total sample of 316 as 65.2%, while in the sample amounted to 108 the number of females by percentage 34.2%, and the lost ratio was 2 forms as 0.6%, as shown in the table7.

Figure No (1)

gender



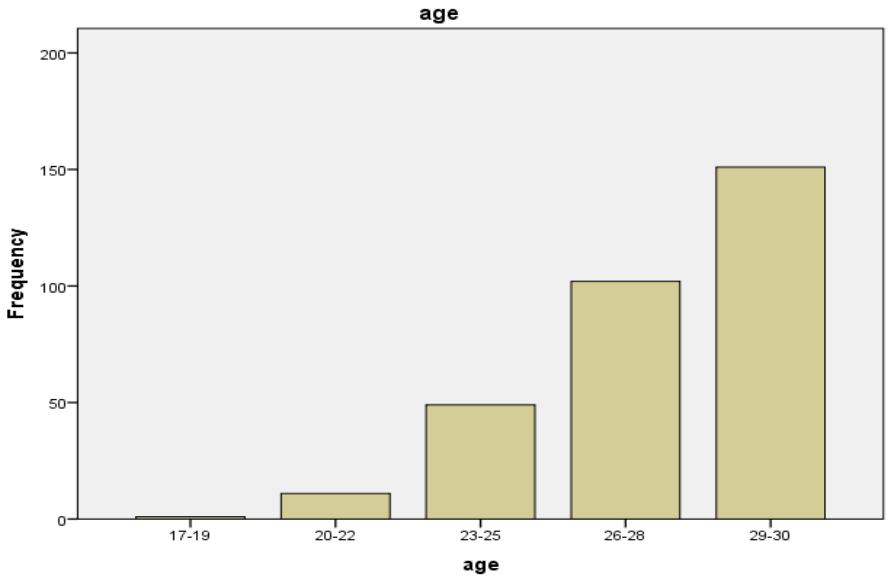
5.2.3. Frequencies for age

Table8 Frequencies for age

		Frequency	Percent
Frequencies for age	17-19	1	0.3
	20-22	11	3.5
	23-25	49	15.5
	26-28	102	32.3
	29-30	151	47.8
	Total	314	99.4
	System	2	0.6
Total		316	100.0

Age was grouped in 5 categories in the questionnaire between 17 to 30 years, the distribution of frequencies were set out in the above table, the frequencies showed that the highest range is for those who are between 29 and 30 years followed by the category of 26 to 28 group, and the less one was the group of the youngest between 17 to 19 and 20 to 22, and the lost ratio was 2 forms as 0.6%.

Figure No (2)



5.2.4. Frequencies of level of the education

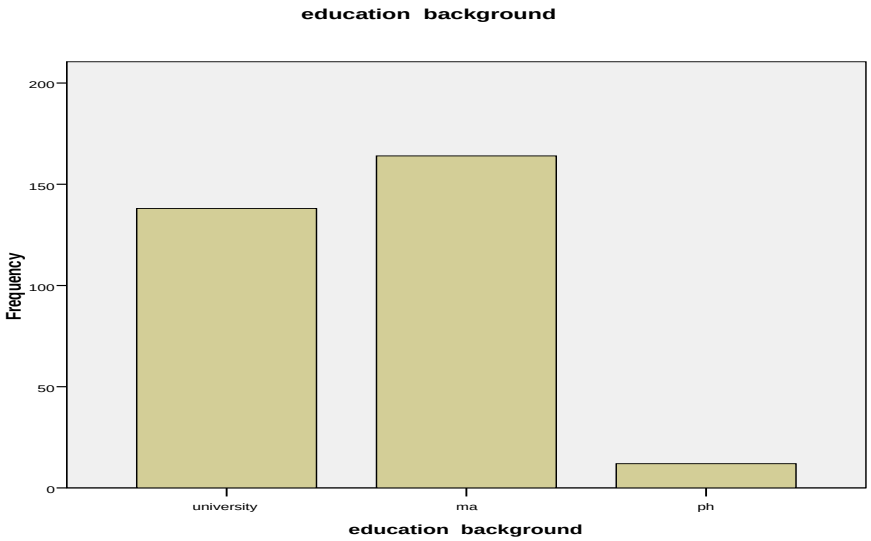
Table 9 Frequencies of level of the education

		Frequency	Percent
Frequencies of level of the education	University	138	43.7
	Ma	164	51.9
	Ph	12	3.8
	Total	314	99.4
	System	2	.6
Total		316	100.0

The majority of the questionnaires are in the master level of studies with percentage of 51.9% which is more than half of the questionnaires. The second is for the undergraduate program students with percentage of 43.7%, for PHD program there are only 12 students with percentage of 3.8%, the missing values ratio was 2 forms as 0.6%.

Figure No (3)

Education background



5.2.5 Frequencies of department and the specialist of the education

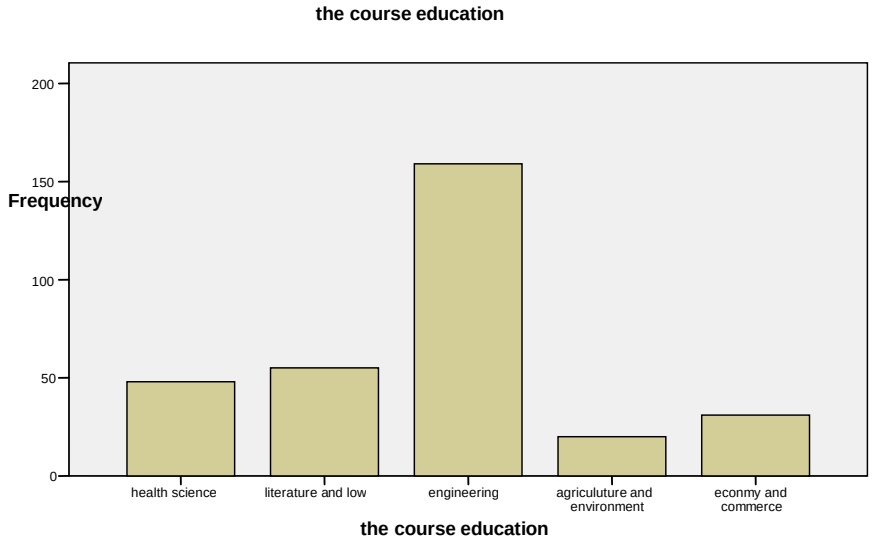
Table 10 Frequencies of department and the specialist of the education

		Frequency	Percent
Frequencies of department and the specialist of the education	health science	48	15.2
	literature and low	55	17.4
	Engineering	159	50.3
	agriculture and environment	20	6.3
	economy and commerce	31	9.8
	Total	313	99.1
	System	3	.9
Total		316	100.0

The above question which analysis the student's level this question was prepared to find the fields of the questionnaires. The results of the test showed that most of the students are studying in the Faculty of Engineering with a percentage of 50.3%, literature and low students are in next level with percentage of 17.4%, this is followed by those who are studying health science as percentage of 15.2%, which was followed by the students who are studying Economy and Commerce as 9.8% then those who are studying Agriculture and Environment as 6.3%, the missing values was for 3 forms as 0.9% only.

Figure No (4)

The course education



5.2.6 Frequencies of average monthly household income

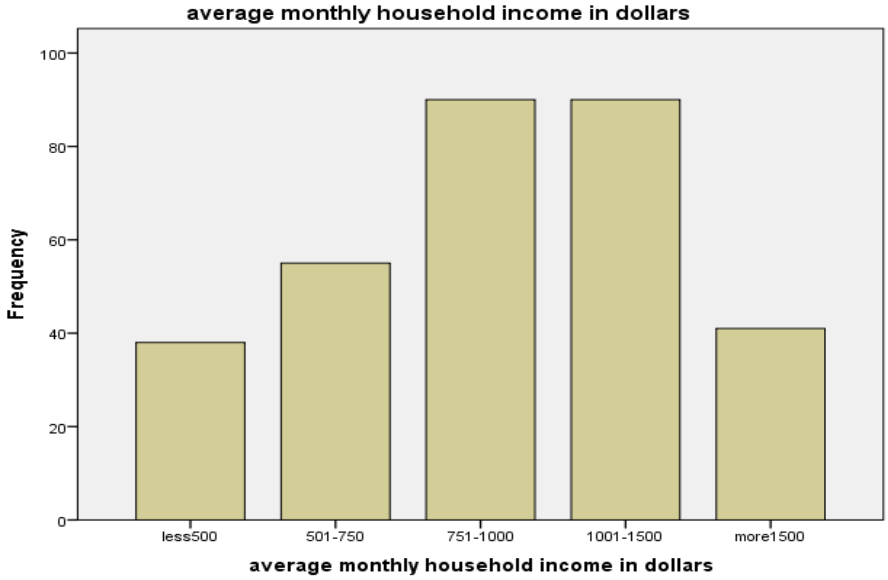
Table 11 Frequencies of average monthly household income

		Frequency	Percent	Valid Percent	Cumu Percent
Frequencies of average monthly household income	Less 500	38	12.0	12.1	12.1
	501-750	55	17.4	17.5	29.6
	751-1000	90	28.5	28.7	58.3
	1001-1500	90	28.5	28.7	86.9
	more1500	41	13.0	13.1	100.0
	Total	314	99.4	100.0	
	System	2	.6		
Total		316	100.0		

The majority of the questionnaires has the average income between 750$ to 1500$, tow of the categories showed that with 90 persons for each category as 28.5%, then those who have average income between 500 to 750 the test showed that they are 55 persons as 17.4%, then those who have average income more than 1500$ the frequency test showed that they are 41 persons as 13$, those who have average monthly income less than 500$ the analysis frequency count them as 38 persons, the lost ratio was 2 forms as 0.6%.

Figure No (5)

Average monthly household income in dollars



5.2.7 Frequencies of average monthly exchange for the family

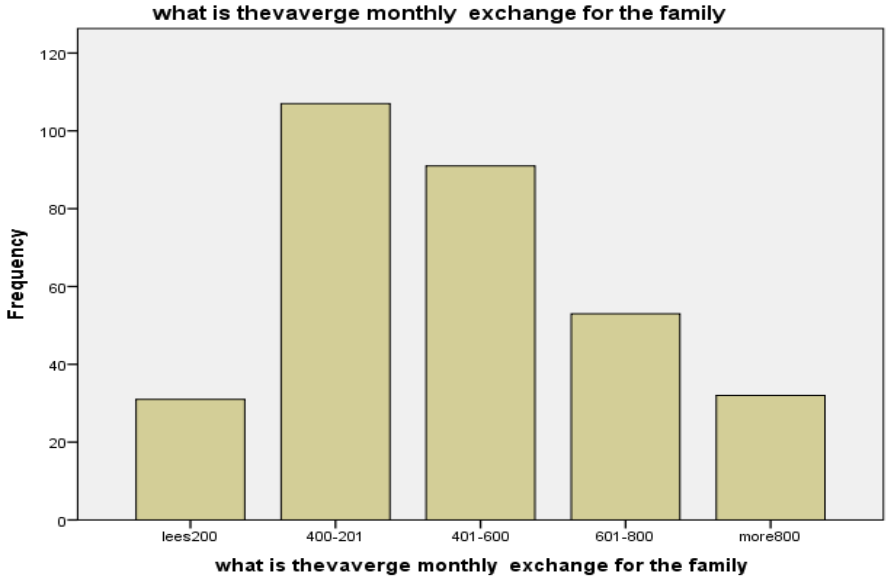
Table 12 Frequencies of average monthly exchange for the family

		Frequency	Percent
Frequencies of average monthly exchange for the family	lees200	31	9.8
	400-201	107	33.9
	401-600	91	28.8
	601-800	53	16.8
	more800	32	10.1
	Total	314	99.4
	System	2	.6
Total		316	100.0

There is no average monthly exchange as it shown from the above table, those who exchange less than 200$ are 31 with percentage 9.8%, and between 200 and 400$ there are 107 person with 33.9% and this the highest average, near to that average there are 91 persons who has exchange between 400 and 600$ with percentage of 28.8%, 53 person has monthly exchange less than 800 and more than 600$ as 16/8%, and for those who has monthly average exchange greater than 800$ there are only 32 person as 10.1%.

Figure No (6)

The average monthly exchange for the family



5.2.8 Frequencies of healthy diet and consumer awareness

Table 13 Frequencies of healthy diet and consumer awareness

		Frequency	Percent
Frequencies of healthy diet and consumer awareness	Yes	246	77.8
	No	66	20.9
	I don't know	2	.6
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 13 shows that the highest percentage was 77% yes and the lowest percentage was not insulted. This means that students are aware of the health system for food

Figure No(7)

healthy diet and consumer awareness

5.2.9 Knowledge and information about food safety

Table 14 Frequencies of food safety background

		Frequency	Percent
Knowledge and information about food safety	Yes	239	75.6
	No	73	23.1
	I don't know	2	.6
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 14 show that the proportion of 75% of the students was on their knowledge with the answer is yes for the safety proportion 23% .This indicates that students have the knowledge about food safety.

Figure No(8)

food safety background

5.2.10 The degree and amount of interest in food safety

Table 15 Frequencies of degree of interest in food safety

		Frequency	Percent
The degree and amount of interest in food safety	very interested	95	30.1
	Interested	128	40.5
	less interested	87	27.5
	not interested	4	1.3
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 15 shows that between 30% and 40% of the students care and are very interested in food safety, more than 27% are less attention and only 1.3% are not interested in food safety and this result shows how students interest in food safety. So there are positive relationship between students' knowledge safety of the food and attention to their knowledge.

Figure No (9)

Degree of interest in food safety

5.2.11 Negligence is the source of information for the proper health system for food

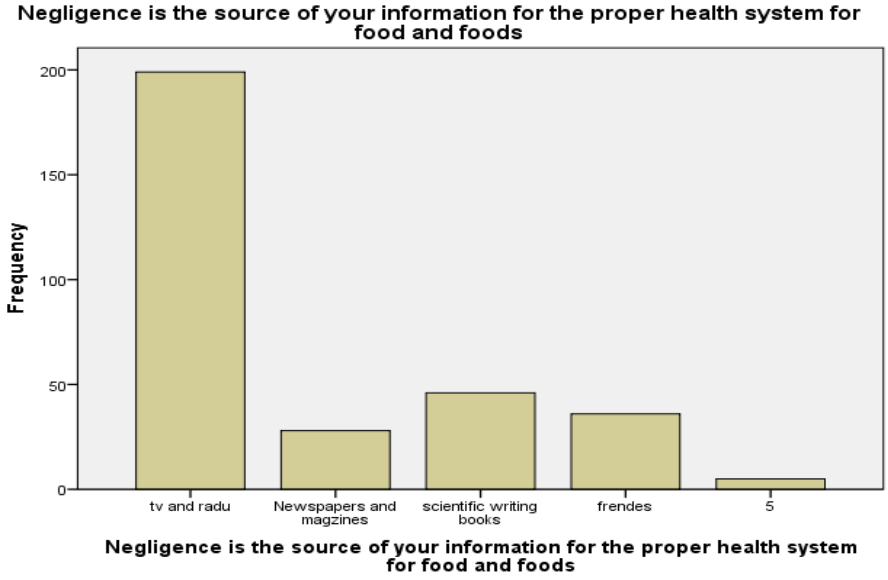
Table 16 Frequencies of information for the proper health system

		Frequency	Percent
Frequencies of information for the proper health system	TV and radio	199	63.0
	Newspapers and magazines	28	8.9
	scientific writing books	46	14.6
	Friends	36	11.4
	Others	5	1.6
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 16 show that 63% of students depends on their sources of information about the health system for food and foods from television, radio, 8% newspapers and magazines and 14% depend on publications and scientific books and 11% depend of friends. This shows that students rely on television and radio more than the rest of sources.

Figure No (10)

Information for the proper health system



5.2.12 the opinion about genetically modified foods pose risk to health

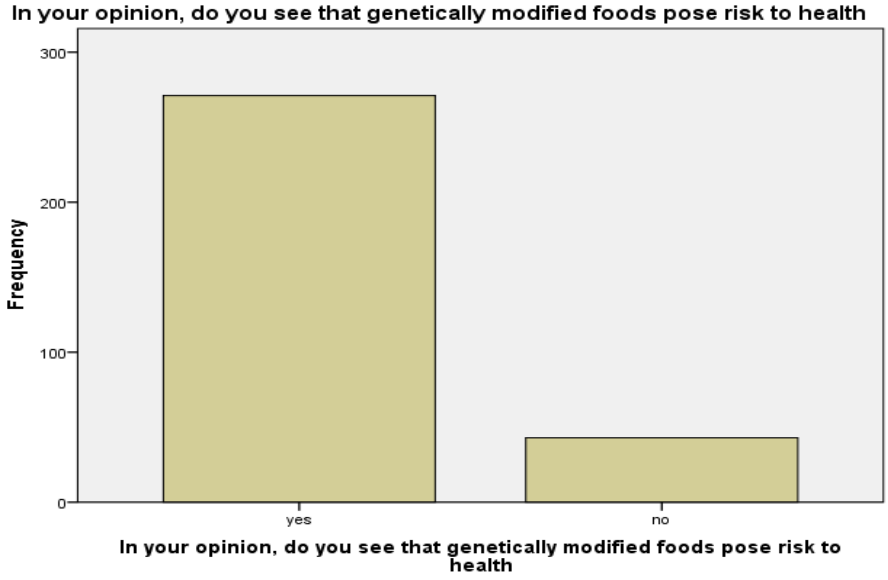
Table 17-1 Frequencies of genetic modified foods pose risk to health

		Frequency	Percent
Frequencies of genetic modified foods pose risk to health	yes	271	85.8
	no	43	13.6
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table17-1 showed tare 85% of the students were answered yes, "said genetically modified foods pose a health risk" 13% of the students did not answer.

Figure No (11)

Genetic modified foods pose risk to health



5.2.13 The affects of genetically modified foods pose risk to health

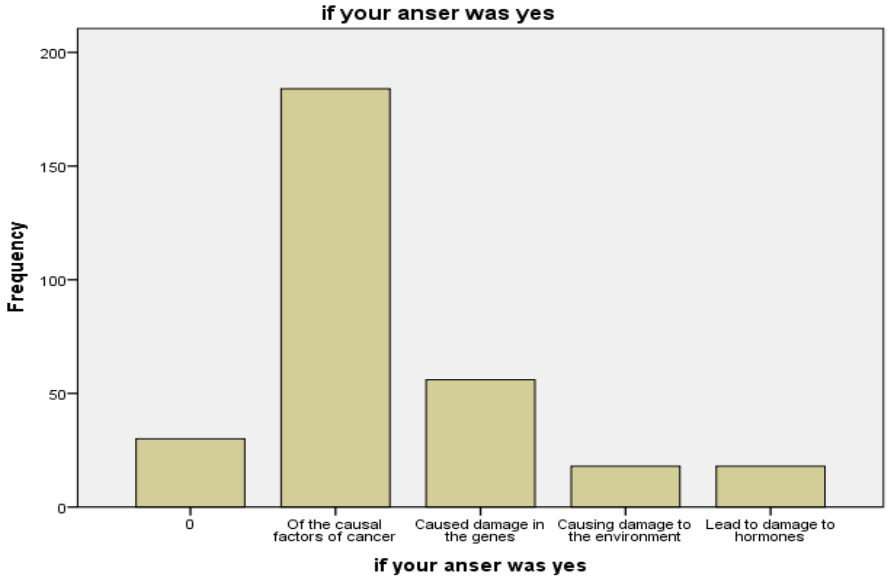
Table 17-2 Frequencies of genetic modified foods pose risk to health

		Frequency	Percent
Frequencies of genetic modified foods pose risk to health	0	30	9.5
	Of the causal factors of cancer	184	58.2
	Caused damage in the genes	56	17.7
	Causing damage to the environment	18	5.7
	Lead to damage to hormones	18	5.7
	Total	306	96.8
	System	10	3.2
Total		316	100.0

Table 17-2 show that 85% of the students "see that genetically modified foods pose risk to health of cancer and 17% damage in the genes 5% Causing damage to the environment ,and 5%Lead to damage to hormones ,and 9% other.

Figure No (12)

Genetic modified foods pose risk to health



5.2.14 The Knowledge and information about food safety systems

Table 18 Frequencies of food safety systems information and background

		Frequency	Percent
Frequencies of food safety systems information and background	EUROGAP	40	12.7
	HACCP	112	35.4
	TSI	1	0.3
	I don't know	15	4.7
	ISO	146	46.2
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 18 show the percentage for "information about food safety systems. This shows that those who have information about food system is as follow: 0.3% has knowledge about TSI, 46.2% for the ISO as the highest ratio, 4.7% of the samples don't have any knowledge about standard system.

Figure No (13)

Food safety systems information and background

5.2.15 The opinion of the most means clarification for you to know that help evidence for paper envelope

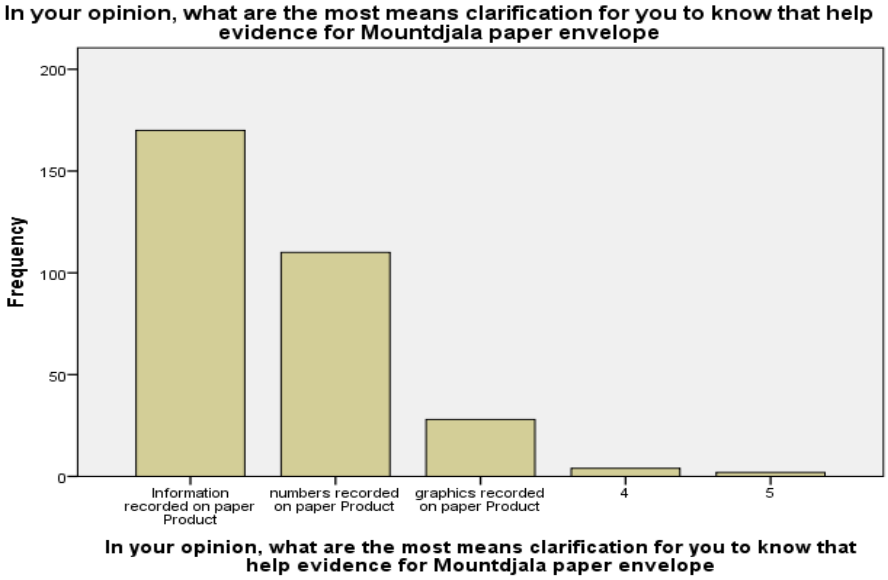
Table 19 Frequencies of food safety systems clarification

		Frequency	Percent
food safety systems clarification	Written Information recorded on paper Product	170	53.8
	Numerical information and numbers	110	34.8
	Figures and graphics	28	8.9
	I don't know	4	1.3
	No one of the above	2	.6
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 19 shows that the majority of the questionnaires have information 53% recorded on paper product Hearings that" helps to know the product-specific data" and 34% recorded on paper Product ,and the lowest rate 8% graphics recorded on paper Product. This result suggests that the students were aware of food safety as explained table13 as increased interest in reading the information on the product description.

Figure No (14)

5.2.16 The most means clarification that help evidence for paper envelope



5.2.17 How much money could be paid for the products subject to the safety of food compared with products not subject to safety?

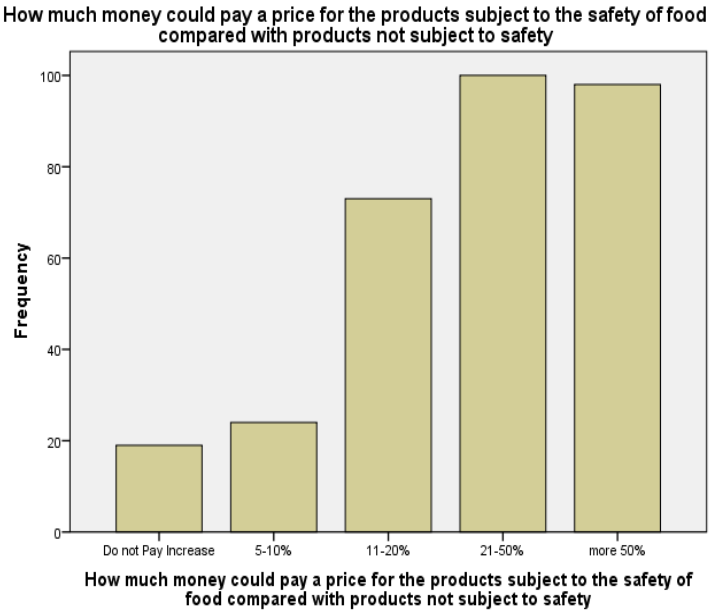
Table 20 Frequencies of payment rate for safety food

		Frequency	Percent
Frequencies of payment rate for safety food	Do not Pay Increase	19	6.0
	5-10%	24	7.6
	11-20%	73	23.1
	21-50%	100	31.6
	more 50%	98	31.0
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 20 shows that a large proportion of the students 30% can pay more than 50% "for the purchase of products subject to the safety of the food compared to non-food subject of safety" and the lowest rate was 6% never pay . And the rest ratios were 7% and 23% 5-10% 21-50% . This ratio indicates that the sample individuals interested in buying health products even if it cost them more than a 50% are interested in the evidence of the health food

Figure No (15)

Payment rate for safety food



5.2.18 To what extent are you concerned with the following features when buying of food ingredients

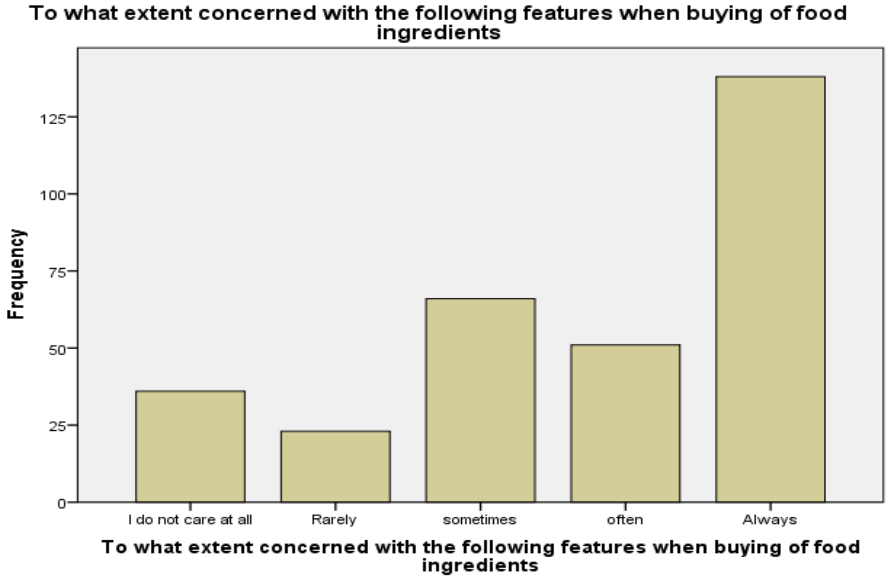
Table 21 Frequencies of extent concerned with some features when buying food

		Frequency	Percent
Frequencies of extent concerned with some features when buying food	I do not care at all	36	11.4
	Rarely	23	7.3
	sometimes	66	20.9
	Often	51	16.1
	Always	138	43.7
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 21 show that The largest percentage, estimated at 43% of the students' answers that they "always" extent concerned with the following features when buying of food ingredients" 11% do not care at all 'and 7% rarely and 20% sometimes and 16% often. Results indicate that these are read by students interested in food products component.

Figure No (16)

Extent concerned with some features when buying food



5.2.19 What is the extent of your interest in mobilization good packaging and keep the product in the appropriate storage conditions

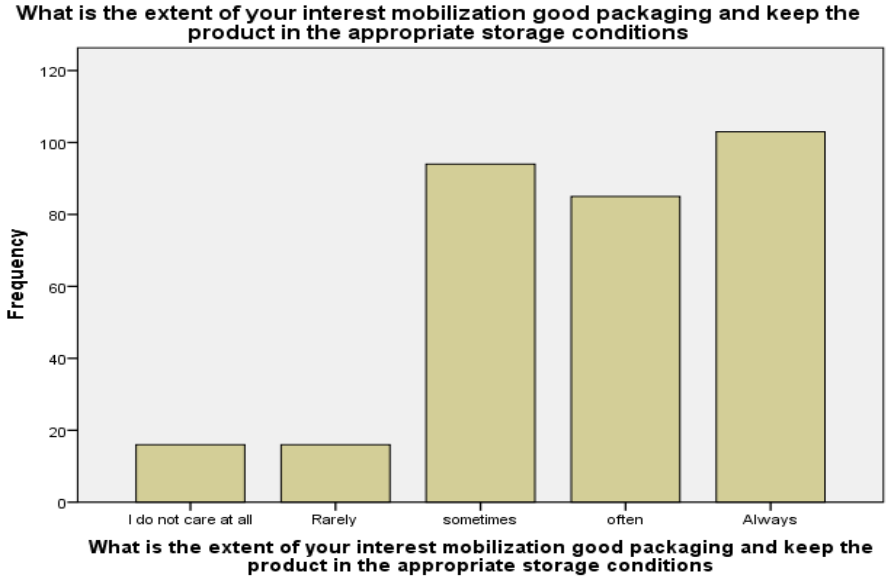
Table 22 Frequencies of extent of interest mobilization good packaging

		Frequency	Percent
Frequencies of extent of interest mobilization good packaging	I do not care at all	16	5.1
	Rarely	16	5.1
	Sometimes	94	29.7
	Often	85	26.9
	Always	103	32.6
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 22 shows that the largest percentage always represent 32% "the appropriate storage conditions"5% do not care at all ' 5% rarely 29% sometimes and 26% often. This indicates students care about the conditions of storage, This refers to promote awareness that the task of storage to maintain the product of corruption conditions.

Figure No (17)

Extent of interest mobilization good packaging



5.2.20 Do you have or any one of your family members ever had food poisoning?

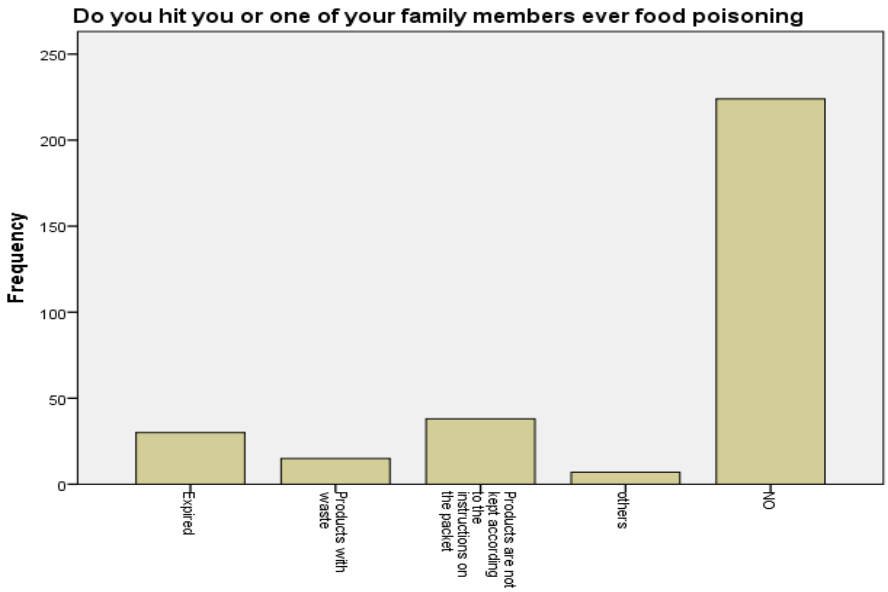
Table 23 Frequencies of food poisoning

		Frequency	Percent
Frequencies of food poisoning	Expired	30	9.5
	Products with waste	15	4.7
	Products not kept as the instructions on the packet	38	12.0
	Others	7	2.2
	NO	224	70.9
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 23 shows the percentages obtained by the direction of" the students exposure or a member of their family food poisoning, where the largest percentage" 70% NO, but in the event of exposure to poisoning ratios is % Expired, 4% Products with waste, 12% Products are not kept according to the instructions on the packet, 2% other. When comparing the students 'interest and safety of the food being poisoned, we find that when the students' interest in food safety is great, they are less exposed to the incidence of food poisoning

Figure No (18)

Member of food poisoning



5.2.21 Do you know what to do if you feel ill after eating foodstuff?

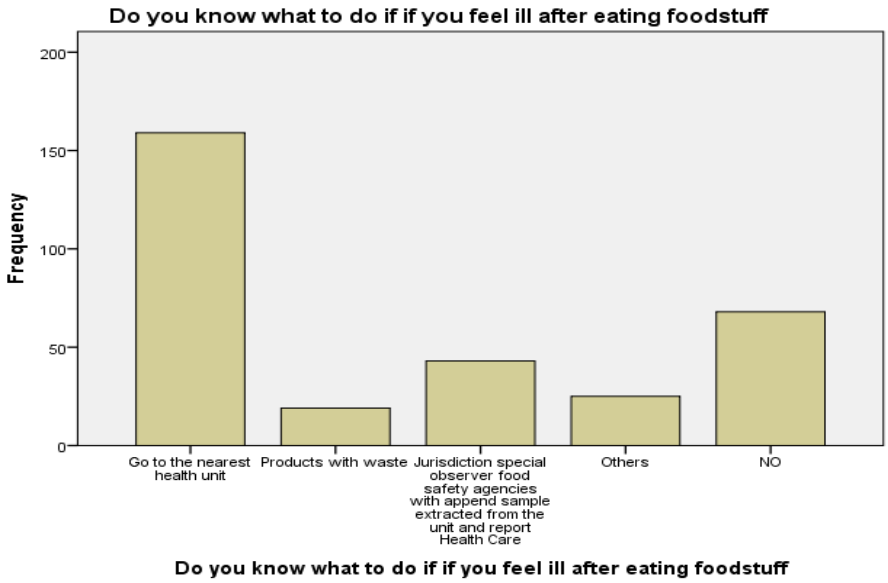
Table 24 Frequencies of procedures when the student feels ill after eating foodstuff

		Frequency	Percent
Frequencies of procedures when the student feels ill after eating foodstuff	Go to the nearest health unit	159	50.3
	Products with waste	19	6.0
	Jurisdiction food safety agencies with sample	43	13.6
	Others	25	7.9
	I don't know	68	21.5
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 24 show that 50% Go to the nearest health unit, 6% products with waste, 13%Jurisdiction special observer food safety agencies with append sample extracted from the unit and report Health Care , 7%others . 21% do not know how to behave when they are poisoned.

Figure No (19)

Procedures when the student feels ill after eating foodstuff



5.2.22 Products with waste are you aware of food safety for losing

Table 25 Frequencies of aware of food safety for losing

		Frequency	Percent
Frequencies of aware of food safety for losing	Yes	9	2.8
	No	304	96.2
	I don't know	1	.3
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 25 shows that there is 96% No "and that showed they don't aware of food safety for losing, there is only 0.3% yes. And these show that the ratio of divorce do not have any idea about losing.

Figure No (20)

aware of food safety for losing

5.2.23 Do you think the director of safety and protection of food in our country play any rule on protect you from food awareness?

Table 26 Frequencies of acceptance of food safety rules in Libya

		Frequency	Percent
Frequencies of acceptance of food safety rules in Libya	I believe that food safety is not enough	54	17.1
	The control and audit is not enough	197	62.3
	I do not know	60	19.0
	I think food safety is enough	1	.3
	Total	312	98.7
	System	4	1.3
Total		316	100.0

Table 26 shows that the largest percentage was 62%, more than half see the Monitoring and auditing are inadequate, and 17% believe that food safety is not enough. The lowest percentage does not know.

Figure No (21)

of acceptance of food safety rules in Libya

5.2.24 Price

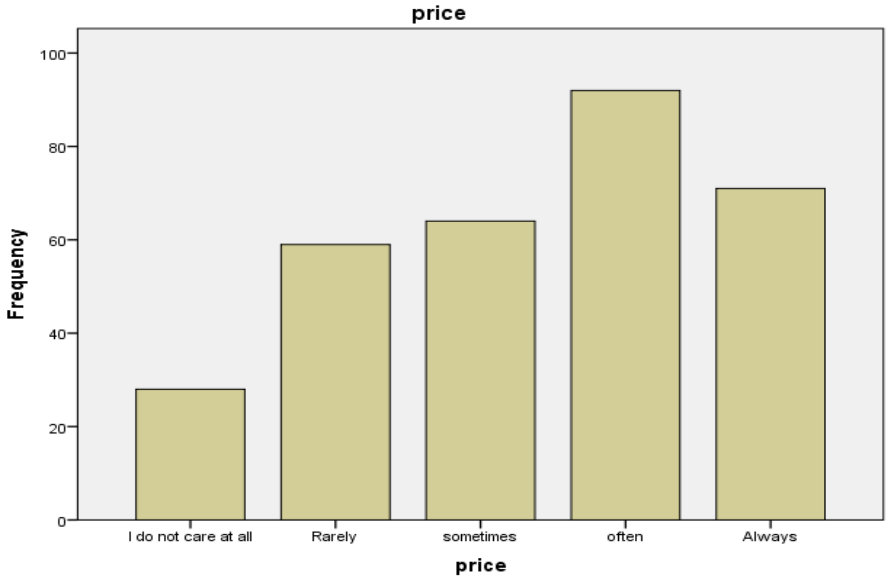
Table 27 Frequencies of awareness of food price

		Frequency	Percent
Frequencies of awareness of food price	I do not care at all	28	8.9
	Rarely	59	18.7
	Sometimes	64	20.3
	Often	92	29.1
	Always	71	22.5
	Total	314	99.4
	System	2	.6
Total		316	100.0

Table 27 shows that the largest percentage 29% Often, 22% Always, 20% Sometimes the least percentage 8% I do not care at all, and 18% rarely. These results indicate the students' interest in the price of food products.

Figure No (22)

Aware of food price



5.3 Descriptive statistics

5.3.1. Likert Scale

5.3.1.1. Clarify Likert scale Quintet

Since the variable which expresses options (Strongly agree, agree, neutral, non- agree, not agree at all) is a measure of ordinal numbers falling within the program reflects a weights (5 = strongly agree, agree = 4, 3 = neutral .....), we calculate the arithmetic mean (weighted average) by calculating the length of the first up to the quotient of 4 to 5. where 4 represents the number of spaces (from 1 to 2 first distance, and from 2 to 3 seconds a distance, and from 3 to 4 third distance, and from 4 to 5 a fourth distance), while 5 represents the number of choices. When evenly divisible by 4 to 5 produces the length of the period is equal to 0.80 and become a distribution as the following table

Table 28 Clarify Likert scale

No	The weighted average	Level
1	1 – 1.79	I Don't care at all
2	1.80 – 2.59	Rarely
3	2.60 – 3.39	Some times
4	3.40 – 4.19	Often
5	4.20 – 5.00	Always

5.3.2. Attention to some features while buying food

Table 29 Descriptive Statistics of attention to some features while buying food

	N	Mean	Std. Deviation	Result
Extent concerned with the features	314	3.74	1.383	Often
The date of production and expiration date	314	4.46	.925	Always
Matching international standards	314	3.60	1.354	Often
Product brand name	314	3.70	2.527	Often
Additions	314	3.42	1.530	Often
Price	314	3.38	1.266	Some times
Nutritional value	314	3.45	1.347	Often
Storage and preparation conditions	314	3.25	1.366	Some times
Valid N (listwise)	314	3.625	1.462	Often

The table showed that for the first question tended to option (often) with standard deviation 1.383 and majority of other questions also tended to the option (often), only two questions tended to the option (sometimes), for the first one the mean was 3.38 with std deviation 1.266 and the other one with mean 3.25 and std deviation 1.366, there is another question attended the (always) option with mean 4.46 and std deviation 0.925. But in general for all questions the mean is 3.625 and refer to Likert scale the answers of this question is often with STD deviation 1.462.

5.3.3.The items concern students in terms of food safety

Table 30 Descriptive Statistics of the items concern students in terms of food safety

	N	Mean	Std. Dev	Results
Additives and materials	314	3.03	1.233	Sometimes
Transmission of bacteria	314	3.82	.986	Often
Products with manipulated genes	314	3.65	1.349	Often
Freezing and storage	314	3.18	1.334	Sometimes
Radiation	314	3.42	1.561	Often
Diseases such as mad cow disease and bird flu	314	4.37	.910	Always
chemical residues in plant and animal	314	3.57	1.288	Often
Valid N (listwise)	314	3.434	1.237	Often

All answers tended to option (often) with mean 3.434 and standard deviation 1.237, but the first question tended to (sometime) option with mean 3.03 and std deviation 1.233, also the freezing and storage question tended to (sometimes) option with mean 3.18 and std deviation 1.334. There is only one question that tended to (always) option which is diseases such as mad cow disease and bird flu, this means that the students try to take care from the food related to diseases problems.

5.3.4. The habitual actions of the students to food safety requirements

Table 31 the habitual actions of the students to food safety requirements

Descriptive Statistics	N	Mean	Std. Dev	Result
Habits when buying food Open	314	1.55	1.051	Never
Attention packaging appropriate manner	314	3.69	1.098	Often
Buy frozen foods at the end of shopping	314	2.12	1.369	Rarely
Attention to the frozen foods not melt before buying	312	2.86	1.460	Sometimes
Don't care improvised broken and cracked eggs, e.g.	314	3.02	1.832	Sometimes
Organize the refrigerator	312	2.46	1.491	Rarely
I taste the food to make sure if it's bad or not	314	2.93	1.766	Sometimes
Not eat foods rotten after the removal of the affected part	314	4.29	1.299	always
Eat foods rotten after the removal of the affected part	314	1.54	1.125	Never
Buying milk from street vendors instead of powdered milk	314	1.68	1.189	Never
wash hands after touching the eggs and meat	314	4.14	1.320	Often
Valid N (listwise)	310	2.752	1.363	Sometimes

The above table showed that majorities of the answers tended to option (sometimes) with standard deviation 1.363 and mean 2.752. Some other answers tended to the option (often) like washing hands after touching meats and eggs, and for buying opening foods the answers tended to never with mean 1.55 and this showed the consideration of food safety while buying food from market. Customers often tended to attention of packaging in appropriate manner, but the study also shows that these customers rarely pay attention to buy frozen food on the end of shopping. And these are the result indicating the extent of students' interest sanitary habits while handling food

5.3.5. The reliabilities of the students to some nutrients

Table 32 reliabilities of the students to some nutrients

Descriptive Statistics	N	Mean	Std. Dev	Results
Bread	314	3.55	1.090	Many
vegetables and fruits	314	4.32	.934	So much
Street vendors milk	314	1.87	1.137	Few
Powdered milk	313	2.05	1.065	Few
Cheese, yogurt	314	4.02	1.022	Many
Fish and meat from the sea	314	3.99	1.147	Many
The food in the refrigerator	314	2.51	1.170	Few
Sweets and cakes	314	2.84	1.106	Amid
Dried fruits	313	2.03	.977	Few
Fruit juice shelf	303	2.95	1.209	Amid
Potato chips and nuts	314	2.00	1.309	Few
Canned food	314	2.22	1.162	Few

Frizzed food	314	1.78	1.070	A little bit
Spices	314	3.23	1.366	Amid
Valid N (listwise)	301	2.74	1.126	Amid

The answers to this question tended to the option (amid) with standard deviation 1.126 and mean 2.74, but some questions showed that there is reliability of food according to vegetables and fruits, cheese and yogurt, and canned food.

On the other hand there are some answers tended to a little bit awareness of food safety like the frizzed food. But the most important to be considered is the awareness of street vendors milk which tended to (few) option with mean 1.87 and STD deviation 1.137 and powdered milk which also tended to (few) option with mean 2.05 and STD deviation 1.065.

5.3.6. The habitual actions of the students while buying food

Table 33 Descriptive Statistics of the habitual actions of the students

	N	Mean	Std. Dev	Res
Branded products have always existence	314	1.46	.724	Agr
Same place where the product is sold like Janitorial	314	1.28	.637	Agr
Attention to the quality more than taste components	314	1.65	.794	Agr
Foods sold in stores is committed to major standards	312	1.82	.684	Neut
Gifts foods influential in demand regardless of quality	314	2.01	.697	Neut
Knowing the corruption of food by color, taste and smell	314	1.85	1.679	Neut
foods must reach room temperature and then cooled	314	1.89	.702	Neut
You can use eggs that had been breaking	314	2.62	.683	Neut
Cooked foods and raw foods should be kept separately	314	1.66	.813	Agr
Cooling process not kill the bacteria, but stops production	314	1.80	.698	Neut
Canned foods can be saved on the original form reservoirs	314	1.70	.663	Neut
Stored food incorrectly have no harm to health	313	2.14	.939	Neut
Expiration date foods always be a very important	314	1.44	.790	Agr
Big restaurants always provide healthy meals	314	2.15	.730	Neut
It is important to know the country of a food product	312	1.47	.892	Agr
It must be re-purchased food if it was corrupt	314	1.51	.747	Agr
Free foods hormones are always going to be good for health	314	1.46	1.024	Agr
Dispose of expired foods	314	1.18	.484	Agr
save the meat and fish in different places	312	1.43	.727	Agr
attention to the written info during cooking and storage	312	1.19	.469	Agr
save food in different places according to their classification	310	1.23	.500	Agr
Food poisoning result of the use of expired food items	312	1.57	.612	Agr
You must not freeze meat after dissolved once again	312	1.58	.631	Agr
wear special gloves as well as cooking and clothes	312	1.40	.687	Agr
Valid N (listwise)	305	1.645	0.750	Agr

Related to the questions of personal choices which showed the ways of the customers agree or disagree to the food safety productions the above table showed that majorities of the answers tended to option (agree) with standard deviation 0.750 and mean 1.645. 9 answers tended to neutral decision and none of the answers tended to the disagree option which means that the majority of students have high awareness to ways of safety food production.

5.4. Analysis of the Statistical hypotheses

5.4.1 Chi-square tests

The Chi-square test to test the quality of the sample to reconcile

The distribution of the sample and compare the answers expected of them

The following tables show a statistical distribution of the surveyed sample answers and statistics expected notes that it is not identical to any viewer do not match expected.

Null hypothesis: the Views group selected trace the distribution of a particular or specific probabilistic theory.

Alternative hypothesis: The Views group, which have been selected, are not consistent with this distribution or a particular theory.

- **H_0** The expected average is equal to observed average.
- **H_1** The expected average of spectator does not equal observed average.

5.4.1.1. First Chi-square test to test the quality of the sample to reconcile

The following tables show a statistical distribution of the answers surveyed, it is not identical to any spectator.

5.4.1.1.1. Do you consider yourself as a person familiar with consumer awareness and proper healthy diet?

Table 34 The consumer awareness and proper healthy diet

	Observed N	Expected N	Residual
Yes	214	92.7	121.3
No	62	92.7	-30.7
I don't know	2	92.7	-90.7
Total	278		

These results indicate that there are significant differences that will need to accept the alternative hypothesis and reject the imposition of nothingness, which makes it imperative to lack of consideration by respondents to this matter.

5.4.1.1..2. What degree is your amount of interest in food safety?

Table 35 The amount of interest in food safety

	Observed N	Expected N	Residual
Very interested	80	69.5	10.5
Interested	119	69.5	49.5
Less interested	75	69.5	5.5
Not interested	4	69.5	-65.5
Total	278		

For the interest of food safety sample test result shows that there is a clear and significant difference between what is assumed and what is expected for answers respondents as shown in the table.

5.4.1.1.3. Do you have any information about food safety?

Table 36 The information of food safety

	Observed N	Expected N	Residual
Yes	211	139.0	72.0
No	67	139.0	-72.0
Total	278		

The extent of knowledge of food safety shows the majority of respondents answer yes by a wide margin between what is expected and the observed results.

5.4.1.1.4. Which source or sources do you use to acquire information on food safety?

Table 37 The sources used to acquire information of food safety

	Observed N	Expected N	Residual
TV and radio	183	55.6	127.4
Newspapers and magazines	22	55.6	-33.6
scientific writing books	34	55.6	-21.6
friends	34	55.6	-21.6
I don't know	5	55.6	-50.6
Total	278		

Most respondents agreed that TV and radio are two methods with more instructive definition, while the rest of the media came in lower echelons, and in general the test result showes the presence of statistically significant differences.

5.4.1.1.5. In your opinion, do you see that genetically modified foods pose risk to health?

Table 38 – 1 The genetic modified foods pose risk to health

	Observed N	Expected N	Residual
yes	247	139.0	108.0
no	31	139.0	-108.0
Total	278		

The test result shows that most respondents believe that there is the impact of genetic materials that go into the food. The test showed that there are statistically significant differences. And these result indicates that students are aware of the safety of food and have enough knowledge of how dangerous are changes to any material food

5.4.1.1.6. In case the answer is yes, why?

Table 38 – 2 The genetic modified foods pose risk to health

	Observed N	Expected N	Residual
Other reasons	28	55.6	-27.6
Because they causal factors of cancer	165	55.6	109.4
Caused damage in the genes	51	55.6	-4.6
Causing damage to the environment	18	55.6	-37.6
Lead to damage to hormones	16	55.6	-39.6
Total	278		

Further to the previous question if the answer is yes, what are the reasons that respondents believe that the genetic material of an impact on the food need material test results have shown that there are significant differences.

5.4.1.1.7. Do you have any information about food safety systems?

Table 39 -1 The knowledge of food safety system

	Observed N	Expected N	Residual
yes	170	139.0	31
No	108	139.0	-31

The extent of knowledge of the sample food safety standard systems converged answers among respondents, though, so the test results showed that there were statistically significant differences although it is considered that a few differences.

5.4.1.1.8. If your answer is YES, which of the following food safety systems do you know?

Table 39 – 2 The specification of food safety system by the students

	Observed N	Expected N	Residual
TSI	1	92.7	-55.6
ISO	32	92.7	-24.6
HACCP	137	92.7	80.4
Total	170		

Most of the answers came to know the system HACCP; the test results show that there are significant differences.

5.4.1.1.9. Do you have any information about Organic foods?

Table 40 – 1 The knowledge about organic foods

	Observed N	Expected N	Residual
Yes	242	139.0	103
No	36	139.0	-103
Total	278		

The extent of knowledge of organic food sample test results showed that there were statistically significant differences through the different answers.

5.4.1.1.10. Related to the above question if the answer is YES, which kind of effects they may occur?

Table 40 – 2 The kinds of affects occurred by the organic foods

	Observed N	Expected N	Residual
They are non-genetically modified products	30	55.6	-25.6
They give no harm to health	61	55.6	5.4
They are grown without chemicals and pesticides	70	55.6	14.4
They are hormone-free products	59	55.6	3.4
Other	22	55.6	-34.6
Total	242		

The test results have shown that there are significant differences.

5.4.1.1.11. When buying food do you prefer foods, products coated or uncoated?

Table 41 The choices between coated and uncoated foods

	Observed N	Expected N	Residual
coated	235	139.0	96.0
uncoated	43	139.0	-96.0
Total	278		

The test results pointed to a big difference between what is expected and observed results and this indicates the presence of significant statistical differences and therefore must accept the alternative hypothesis.

5.4.1.1.12 When you buy a packaed product, do you read the information written on the package?

Table 42 The Reading the information written on food package

	Observed N	Expected N	Residual
Never	4	55.6	-51.6
Rarely	11	55.6	-44.6
Sometimes	132	55.6	76.4
Often	115	55.6	59.4
Always	16	55.6	-39.6
Total	278		

These results indicate that there are significant differences that will need to accept the alternative hypothesis and reject the imposition of nothingness, which makes it imperative to lack of consideration by respondents to this matter.

5.4.1.1.13. Do you think that the information written on the package reflects the truth?

Table 43 The trusty on information written on the package

	Observed N	Expected N	Residual
Never	2	55.6	-53.6
Rarely	63	55.6	7.4
sometimes	85	55.6	29.4
often	122	55.6	66.4
Always	6	55.6	-49.6
Total	278		

For the credibility of the information written on the label most of the respondents answered that they are often honest, has tended majority of the answers to that, the results indicate that there are significant differences, which requires acceptance of the alternative hypothesis.

5.4.1.1.14. What kind of information stated on food labels is more understandable?

Table 44 The understandable method to given information about the product

	Observed N	Expected N	Residual
Information recorded on paper Product	166	92.6	73.4
numbers recorded on paper Product	86	92.6	-6.6
graphics recorded on paper Product	26	92.6	-66.6
Total	278		

Further to the previous question about what is the most illustrative means which can illustrate the numerous product-specific information and answers to the test results showed the presence of statistically significant differences and this is bound to accept the alternative hypothesis.

5.4.1.1.15. To what extent are you concerned with the following features when buying of food ingredients?

There are statistically significant differences between frequencies seen with the expected frequencies in the below sub tables of the question

5.4.1.1.15.1. The date of production and expiry date

Table 45 – 1 The date of production and expim

	Observed N	Expected N	Residual
I do not care at all	1	55.6	-54.6
Rarely	11	55.6	-44.6
Sometimes	38	55.6	-17.6
Often	34	55.6	-21.6
Always	194	55.6	138.4
Total	278		

It can be seen that the difference between the expected result and the observed result that has been accessible for those who do not care about the date of production and expiration reached 54.6 and this is a statistically significant difference.

5.4.1.1.15.2. Matching international standards

Table 45 – 2 The international standard matching

	Observed N	Expected N	Residual
I do not care at all	19	55.6	-36.6
Rarely	46	55.6	-9.6
sometimes	49	55.6	-6.6
often	53	55.6	-2.6
Always	111	55.6	55.4
Total	278		

The results of matching the international although the results showed that there are significant differences, but we note that the answers varied for the attention of the extent of matching food for Standardization and Metrology, where the results showed that most respondents always pay attention to this matter, but there is the ability of the proportion of do not care of this matter, which calls for of those in charge of food safety is more identification to this matter.

5.4.1.1.15.3. Product brand name

Table 45 – 3 The product name

	Observed N	Expected N	Residual
I do not care at all	30	55.6	-25.6
Rarely	37	55.6	-18.6
sometimes	92	55.6	36.4
often	60	55.6	4.4
Always	59	55.6	3.4
Total	278		

Most of the respondents are interested in some cases, the product name, while the rest were distributed between the results always attention to this matter and the lack of interest, but that the result of the test indicate that there are significant differences.

5.4.1.1.15.4. Additions

Table 45 – 4 The addition

	Observed N	Expected N	Residual
I do not care at all	40	55.6	-15.6
Rarely	42	55.6	-13.6
Sometimes	45	55.6	-10.6
Often	25	55.6	-30.6
Always	126	55.6	70.4
Total	278		

For substances added to food products, we find that the majority of respondents are interested in this matter, while the rest were distributed between always attention to this matter and the lack of interest, but that the result of the test indicates that there are significant differences.

5.4.1.1.15.5. The price

Table 45 – 5 The price of the product

	Observed N	Expected N	Residual
I do not care at all	25	55.6	-30.6
Rarely	49	55.6	-6.6
sometimes	59	55.6	3.4
Often	89	55.6	33.4
Always	56	55.6	.4
Total	278		

Test tended to pay attention to the price of the product results, these results indicate statistically significant differences that will need to accept the alternative hypothesis and reject the imposition of nothingness.

5.4.1.1.15.6. Nutritional value

Table 45 – 6 The nutritional value

	Observed N	Expected N	Residual
I do not care at all	20	55.6	-35.6
Rarely	63	55.6	7.4
sometimes	51	55.6	-4.6
Often	57	55.6	1.4
Always	87	55.6	31.4
Total	278		

For natural components of foodstuffs to the test showed interest in this matter and the results and these indicate statistically significant differences that will need to accept the alternative hypothesis and reject the imposition of nothingness.

5.4.1.1.15.7. Storage and preparation conditions

Table 45 – 7 The Storage and preparation conditions

	Observed N	Expected N	Residual
I do not care at all	25	55.6	-30.6
Rarely	82	55.6	26.4
Sometimes	29	55.6	-26.6
Often	90	55.6	34.4
Always	52	55.6	-3.6
Total	278		

These results indicate that there are significant differences that will need to accept the alternative hypothesis that care about storage and preparation conditions and reject the imposition of nothingness, which makes it imperative to lack of interest by respondents Storage and preparation conditions.

5.4.1.1.16. How much money could pay a price for the products subject to the safety of food compared with products not subject to safety?

Table 46 The amount of payment price for safety product

	Observed N	Expected N	Residual
Do not Pay more than specific price	16	55.6	-39.6
5-10%	21	55.6	-34.6
11-20%	57	55.6	1.4
21-50%	88	55.6	32.4
more 50%	96	55.6	40.4
Total	278		

Most of the respondents to pay the amount plus a product that takes into account food safety compared to those products that do not take account of this, and the test results show the existence of significant statistical differences and therefore accept the alternative hypothesis.

5.4.1.1.17. What is the extent of your interest mobilization good packaging and keep the product in the appropriate storage conditions

Table 47 The extent of interest mobilization good packaging

	Observed N	Expected N	Residual
I do not care at all	16	55.6	-39.6
Rarely	3	55.6	-52.6
Sometimes	90	55.6	34.4
Often	81	55.6	25.4
Always	88	55.6	32.4
Total	278		

Researcher put this question in a variety of options that make food preservation becomes attractive and receives the attention by the respondents, and a variety of answers and showed statistically significant differences and therefore must accept the alternative hypothesis.

5.4.1.1.18. Do you know what to do if you feel ill after eating foodstuff?

Table 48 The followed procedures when the student feels ill after having foodstuff

	Observed N	Expected N	Residual
Go to the nearest health unit	137	55.6	81.4
Products with waste	15	55.6	-40.6
Jurisdiction special observer food safety agencies	40	55.6	-15.6
Others	25	55.6	-30.6
I don’t know what to do	61	55.6	5.4
Total	278		

There are statistically significant differences, which requires acceptance of the alternative hypothesis for this question, despite the dispersion of the answers in the extent of knowledge of procedures relating to what needs to be followed in cases of food poisoning.

5.4.1.1.19. What do you think about Food Safety in your country?

Table 49 The opinion of the students to the safety system in Libya

	Observed N	Expected N	Residual
I believe that there is food safety	51	69.5	-18.5
The control and audit is not enough	181	69.5	111.5
I believe that food safety is not enough	45	69.5	-24.5
I do not know	1	69.5	-68.5
Total	278		

The answers have varied between acceptance level of control and rejection, however, most respondents felt that the control and audit in respect of food safety in Libya is not enough, but all in all the test results show the presence of statistically significant differences, which requires acceptance of the alternative hypothesis.

5.4.2. Second, Chi-square test for goodness of fit of the sample

The Chi square test for answers respondents to hypothesis (questions) and analysis explained the significance level for all the questions and hypothesis (0.00) Sig degrees of freedom (4) which is less than the moral level (0.05) and according to the results all the questions statistically significant and that means or indicates the presence of statistically significant differences between the observation of sample duplicates and with the expected frequencies of the sample expected variable under study in the original community.

CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

The researcher concluded that there is a clear correlation between awareness of food safety and the educational level of Libyan students studying in Near East University, where the respondents had a number of tariff means that contributed to raise their awareness, environment university and control systems on the production and sale of foods in Cyprus which directly contributed to the increasing awareness among the respondents.

The education and educational media could contribute to raising the awareness of food safety systems, and through the results turned out that the respondents rely on traditional media such as radio and television despite the availability of other media such as social media, which can be reached message safety-related institutions food and be a teaching aids on them.

The results highlighted many of points that require a concerted effort from everyone in order to create awareness among the society with regard to food safety systems, these are integrated efforts and roles between official institutions and voluntary organizations working in this field, and extends it to educational institutions at all stages as well as the media sources should play a bigger role in spreading awareness of healthy food cultures.

We must keep pace with technological developments leap in the awareness through innovation and development and agree on the human motivation as the engine of development. Therefore we must take into account all factors that may cause failures, for that and for the humanity we need to build a new world and share our experiences with all other communities around us.

6.1 The results

This study was conducted in order to know the extent of awareness and knowledge of Libyan students who are studying at Near East University in North Cyprus toward food safety, the analysis of the results was obtained from questionnaires by SPSS 20.0. Here are the search results reached by the researcher:

- The analysis showed that there is significantly difference between what is expected of the results and the observed ones, and based on this the alternative hypothesis H_1 is accepted and the null hypothesis H_0 is rejected and this is what validates the hypothesis research.
- Study found a number of important results, through the questionnaire analysis of samples the researcher concluded that the research hypotheses are correct because. The results showed that most respondents are familiar with food safety and the procedures and the means that must be followed when they want to buy foods, conservation, cooking and other food-related operations.
    - The students are aware of and knowledgeable about proper health system, the results showed that 77.8% of respondents familiar with food safety compared to only 20% results which showed a lack of knowledge of the health system. The get such results in a study carried out by (Susan Turnbull 2014) Practice, Behavior, Knowledge and Awareness of Food Safety among Secondary & Tertiary Level Students in Trinidad, West Indies. students had prior knowledge of food safety as both secondary and tertiary level students indicated and Zain, M. M. and Naing, N. N. (2002), Abdel Azeez &,Jalal Al-Mullah(2000) KSA

Also noted a group of results requiring attention and to be considered, for example, regard to the media sources that play an important role in the dissemination of food safety and health guidelines, we find that the majority of respondents believe that radio and television are the most influential with a rate of 63%, while sources other divided the rest of the results, scientific books came in second place with 14% and the Internet had a rate of only 1% despite the spread of the Internet as a mediator interactive important and despite the fact that scientific books to be more credible in obtaining the required information. Furthermore these results show that other media such as the Internet is still absent not play its due role (Miller, Smith & Buchanan, 1998). The consensus among experts summarizes the need for food safety education as increased awareness of current and emerging food borne illness cases knowledge and consequent behaviours of proper food handling, and the increased risk population (Wilson, 2002). Shiferaw, Yang, Cieslak, et al. (2000) noted that the media has given much attention to food borne illness and has strived toalert the public but much consideration have to be

looked into especially the demographic characteristics of the target audiences to ensure effectiveness.

- The results also showed the reactions of respondents in case of relevant to food safety diseases, half of the sample follow proper sanitary procedures and they go to the competent authorities when the incidence of these diseases by percentage exceeded 50%, another ratio is for the responses who are not aware of these proceedings with a rate of 21%. Despite of this little percentage but it is a poignant and it must disturb to link this matter to its relation with health care. The rest of the answers are the worst one since 29% follow the traditional ways such as the use of local treatments, and this also cause a concern because the indifference and lack of trust in health systems helps to spread misconceptions about how to deal with food safety procedures and health problems in general. M.N. Norazmir , M.A. Noor Hasyimah , A. Siti Shafurah , B. Siti Sabariah , D. Ajau and H. NorazlanshahThe (2012) findings in this study are hoped offered some insights to the authorities to continuously increase the educational program on food safety field in order to increase the awareness of students and understand the continuous occurrence of food borne illness through lack of positive practices in personal hygiene. All differences in this study hoped were taken seriously and some research is done for a better way to increase the awareness.
- The extent of variation replies respondents about the extent of their acceptance of the official role of the Libyan state in standards relevant to food safety and foundations, the results indicated that more than half of respondents believe the role of inadequate food control in Libya inadequate and that by amounted to 62%. These results may come out due to the instability of political state of Libya which extends its influence to include all areas of life not only limited to health and food safety. This result was identical to a study bdel Azeez &,Jalal Al-Mullah (2000) KSA conducted in Saudi Arabia in Al-Ahsa province, said 45% of the sample members see that the efforts of the State and its laws are not sufficient to protect food.
    - On the other hand and for the results related to hygiene during the shopping and cooking food, in terms of washing hands after touching the meat and not to buy open foods, and attention to meat and frozen products that is dissolved before buying them, and concern for the purchase at the

end of shopping, varied responses of the students towards these issues; Results of the analysis have showed that (mostly) majority do not buy open products. Zain, M. M. and Naing, N. N. (2002). These results approve the students have a good knowledge of healthy habits when dealing with food.

- On the other hand, the results for the purchase of frozen meat showed that students rarely pay attention about the purchase of frozen meat at the end of shopping, and they don't care to lose of frozen as it was dissolved before buying them, and this result demonstrates the lack of knowledge that frozen meat after it dissolves become a good median breeding ground for microbes Yarrow, L. K. (2006).

- When comparing the obtained results of trend students to food safety and the results of exposure to food poisoning, we find that there is an inverse relationship between the results since 75% of the students familiar with and awareness of environmental safety and this makes them less susceptible to food poisoning resulting from eating contaminated food. Results showed that the largest proportion of students not exposed to poisoning represent 70%. (Osaili et al., 2010; Sanlier, 2010; Mohd et al., 2009). Was obtained as a result of the reverse that, despite the fact that members of the sample on the awareness of food safety but increase the awareness of students and understand the continuous occurrence of food borne illness through lack of positive practices in personal hygiene.

6.2 Recommendations

- The researcher recommends buying food coated and avoiding the non-coated because they are more prone to microbial contaminants. As well as avoid buying packages that are broken and cracking like eggs.
- The researcher recommends attention in the product validity expiration date as well as advantages in terms of food components entries on the packaging of food products so as to the importance of this matter. It may be the consumer sensitivity of some of the components. Also important to know the end of the expiration date of the food that due to damage caused by the expired foods such as cases of food poisoning.

- Food should be stored in places with temperature and humidity suitable to prevent the presence of bacteria and fungi that cause corruption in the food, because food stored in inappropriate places cause corruption although no expiries date.
- When symptoms occur after a meal , the researcher recommends going to the nearest health unit to receive appropriate treatment and that the seriousness of what is caused by food poisoning on human health, as well as taking a sample of the food that is causing the poisoning to the competent laboratories to be analyzed and find out the reasons of the poisoning to avoid exposure again.
- The researcher finds that the official authorities in Libya need to be more interest in the development of food control and safety systems, and the arbitration of quality and quality standards, and in particular on those imported food considering that Libya imported food products most countries.
- Researcher finds that there is a need to raise the level of environmental awareness of food safety in the community and through the development of educational curricula specializes in food safety through included in the school curriculum, starting from the primary grades through the university level.
- The researcher believes that it should be given to the flora of particular houses where the researcher sees that there is a need to raise awareness of food safety systems at housewives and through educational sessions to explain health habits when cooking such as wear special cooking clothes include head cover to avoid contamination of food as a result of hair loss, as well as wear special gloves for dealing with meat, as well as avoid mixing meat with vegetables to avoid transmission of bacteria, and concern for the good of washing fruits and vegetables that are not cooked.
- When buying meat, frozen food researcher recommends that the purchased must be at the end of shopping, and so in order to keep them frozen until reach the house and put them on its own in the freezer place, because the melting of frozen food allows the proliferation of bacteria on its surface.
- The researcher recommends washing canned food will protective fluid prior to use, and when to keep those food after opening it must be placed in a sealed cans in the freezer and replacing metal cans with glass.

- The researcher recommends avoiding buying milk from street vendors as much as possible because it is more susceptible to contamination and corruption, especially on days when temperatures are high.
- Finally the researcher recommends the need to focus on the sources of information relied upon by consumers to build their knowledge of food safety. Research recommends further this type of studies in Libya because they provide the possibility of knowledge of the health situation in Libya and then planning properly to resolve problems in the future.

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