



THE CONFORMITY OF MILK PRODUCTS TO THE JORDANIAN STANDARDS AND SAFETY REQUIREMENTS IN ALAQABA, JORDAN (2017- 2018)

Ihsan Mohammad Mahmoud Al-Jarrah¹, Elrashied Elgaili Mohamed Ali² and Arafa Elgorashi. M³

¹Master of Food Safety and Health, Food Safety and Health Department, Faculty of Health and Environmental Sciences, Al-Jazira University in Wad Madani, Sudan

²Associate Professor, Food Hygiene, Faculty of Health and Environmental Sciences, Al-Gezira University, Wad Madani, Sudan

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ABSTRACT

Milk products are considered one of the most important consumed foods in Jordan. Because of the spread of adulteration and impurities in milk products that may lead to food poisoning and serious diseases affecting human health, this descriptive experimental study was conducted in Aqaba city in order to assess the conformity of milk products to the Jordanian standard and safety requirements in the period. (2017 - 2016) The data were collected by laboratory investigation of (36) samples of sour cream, cheese, and dry yoghurt, taken from three areas with different economic status. A questionnaire was also used to collect data from (160) households randomly selected from the three areas. In addition, some data were collected from the records of the Aqaba international laboratories (Bin Hayyan) in the period 2014- 2016. The result of the study showed that (16.6%) of the sour cream and dry yoghurt samples violated the Jordanian standard and safety requirements respectively. In the wealthy neighborhood (district of malls), sour cream samples contained vegetable oils, and in the medium wealthy neighborhood sour cream contained Sorbic Acid (98.9 ppm) that are not from their original ingredients. In addition, the dry yoghurt samples from the wealthy neighborhood (district of malls) contained starch, and those from the medium wealth neighborhood contained mold and yeast (2×10^4 cfu/g). The result also showed that all tested samples of cheese were in conformity with the Jordanian standard and safety requirements. The data collected through the questionnaire indicated that the majority of households are able to distinguish clean and unclean milk products by appearance, flavor, and smell. They also know of the causes of the spoilage of milk products, the difference between good and spoiled milk products, and the harmful preservatives used in milk products. The study offered some recommendations concerning the importance of investigating the sources of milk products, moving and keeping milk products in refrigerated storage, activating the role of health monitoring on factories of milk products, imposing serious punishments on factories that violate the safety requirements, encouraging future research that concerns promotion of milk products and replacing chemical preservatives with natural ones.

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INTRODUCTION

Milk is the only food that God gave to the infant at the beginning of his life so that he can rely on other food. Milk represents an important component of the food of many people of the world because it contains all the nutrients that are necessary for man at various stages of his life. Milk is a complex food that contains all the necessary nutrients of the human body to build balanced and balanced, it includes the protein necessary for the composition of the cells of the body and multiply, and the vitamins important for the activity of vital and elements of heat and energy, and the verses of God and miracles,

Ready to digest and not lost during absorption in the intestines very little (Alnemr, 2007). Milk is the most complete food found on the surface of the earth. It is designed to be a diet for all lactobacilli, such as cattle, goats and sheep, and humans at the Stages of their lives (Almousawi, 2007).

The word milk is Mentioned in the Holy Quran in several verses Including

Allaah says (interpretation of the meaning): "And if you are in the cattle for a journey, we will help you from what is in His womb, from between the inheritance and the blood of a pure son for the drinkers." God said in the description of Paradise: (rivers of water is not teeth and rivers of milk has not changed taste) (Surah: Muhammad - verse: 15). In the Sunnah, the Messenger of Allaah (peace and blessings of Allaah be upon him) mentioned the virtue of milk (milk) on other foods. He said: "Whoever drinks food for Allaah, let him say: O God, bless us in it, and grant us better than him. I do not know what

*Corresponding author: **Ihsan Mohammad Mahmoud Al-Jarrah**
Master of Food Safety and Health, Food Safety and Health Department, Faculty of Health and Environmental Sciences, Al-Jazira University in Wad Madani, Sudan

to eat and drink except milk. "Narrated by Ahmad and Abu Dawood.

Moreover, human beings have known milk for thousands of years. Its health benefits are mentioned in the Ayurvedic texts of India, a system of traditional medicine that originated in the Indian subcontinent 6,000 years before the birth of Christ. However, the importance of lactic acid bacteria Milk production only in the 20th century by the Bulgarian doctor (StisGrigorov, Fisberg, 2015).

The milk in the language: (is white liquid is in the females of humans and animals), which is what people call the name (milk), and has several labels where it is called in Turkey Yahuurt and in Europe in Yagurt and in Armenia Kazun and in Arab countries such as Egypt name Yoghurt and Syria, Distinguishing it from milk (Pasha, 1990). Ibn al-Qayyim describes the milk of sheep as the heaviest of milk and moisturize it. It contains dizziness and starvation, which is not in goat's milk and cow's. It should be drunk with water, and goat's milk is a mild, absolute stomach, beneficial for throat ulcers, dry coughs and blood transfusions. Cow's milk nourishes and fertilizes the body, The abdomen is called moderately and is the best dairy and the best among the milk of sheep and goats in tenderness, fatness and fat. The milk of the pollen or camels is the thinnest dairy, the most watery and the least nutritious (Ibn al-Qayyim al-Jawziyya, 2004).

On the other hand, dairy products are considered the main sources of food in the Arab world because they contain the basic components needed by the body in building protein, fats, sugars, minerals and vitamins. Milk is also one of the cheapest types of animal protein and is an important source of relevant manufacturing industries and for the subsistence of a large sector of small rural and urban producers, whose importance varies in the value of agricultural and livestock production from one country to another. A large proportion of traditional producers rely on this sector for their income and livelihood. The dairy sector provides jobs for more than 28% of the labor force in some Arab countries such as Syria. And that the future resources and possibilities available for the development of the dairy sector in the Arab countries could create a surplus of milk and its products in the future, which will contribute to encouraging the local private sector, foreign and Arab to invest in it, and to provide a lot of free currency spent in the import of dried milk and some dairy products. (Syed Ahmed, *et al.*, 2003).

Research Problem

Milk and dairy products are among the most common foods leading to many diseases worldwide. For the first time, the incidence of Listeria-related cheeses in the United States was recorded in 1985 as a result of Mexican soft cheese (Ryser and Marth, 1991) United States of America Pasteurized milk contaminated with *Listeria monocytogenes* causes 49 cases of death (CDC, 2001). Since most cases of Listeria in the world have been taken with raw milk, a range of cases were recorded in Germany in 1981 (Shehata, 1999) The same, recorded in Canada 85 cases, including 29 h (1987). In 1987, 50% of the cases in Switzerland were found to be related to processed foods (FDA, 2002). In 1988 there were also cases in Britain due to the use of unprocessed goat milk 60% of the cases in France were linked to soft soft cheeses in 1992, which deprived pregnant women of feeding on soft cheeses in Europe (Shehata, 1997).

Moreover, the presence of Listeria bacteria in white cheeses is attributed to the presence of Lysteria bacteria in raw milk. In 2012, when testing samples of powdered milk imported to Nigeria, the researchers found that 80% of the samples tested contained aflatoxin (M1) (Ppb 0.5) and the effect of these fungal toxins on humans, especially children (Adebayo *et al.*, 2013) and a study in the region of Puglia (southern Italy) to examine the presence of aflatoxin (M1) on 265 samples of cheese made from milk Cows, buffaloes, goats and sheep, the researchers found that 16.6% of the samples tested contained Aflatoxin (M1) (Maria *et al.*, 2008). In Egypt, the concentration of lead was higher than that of buffalo and cow milk and the low concentration of copper in buffalo milk (Enb *et al.*, 2009). (Nasr *et al.*, 2007). In 2013, 9 million people were infected with tuberculosis More than 95% of TB deaths occurred in low- and middle-income countries. Of the five leading causes of death among women between the ages of 15 and 44, it is estimated that 550,000 children Tuberculosis, and that 80,000 non-HIV-positive children died from tuberculosis. TB ranks second after the virus HIV / AIDS is the leading cause of death, and it is estimated that lead exposure accounts for a mortality rate of 143,000 deaths per year that weighs heavily on developing regions. It is estimated that children's lead exposure annually contributes to about 600,000 (WHO, 2015). The global burden of cholera was estimated at 2.8 million, with 91,000 deaths annually in 51 settler countries (Ali *et al.*, 2015).

On the level of Asia, in 2008 a Chinese dairy company was said to be adding a melamine (rich in nitrogen) to its dairy products to show that the milk is high in protein and that has led to the deaths of some children and the injury of thousands of kidneys through the formation (Emmanuel, 2008). The Sri Lankan Ministry of Health recorded two batches of Angkor dried milk after effects of DiCyanDiamid (DCD), a nitrogen-rich chemical compound used by farmers to promote the growth of cattle pastures because it raises The level of protein in grassland is therefore pasture In Iraq, in the city of Afak (Diwanayah), 56 milk samples were shown to be contaminated with lead (Ghazi *et al.*, 2009). Pakistan When collecting samples from three sites in the city of Faslabad, lead concentrations were higher in cow's and goats' milk than in previous research in the same city (Javed *et al.*, 2009) (Aslam *et al.*, 2011).

As well as the monitoring program carried out by the Food and Drug Administration in 2015 to investigate the presence of bacterial, chemical and physical pollutants in all governorates except the city of Aqaba for carefully selected food samples based on global surveys of potential risks to food, including dairy products, (66) samples of yoghurt and the number of samples in violation (12) samples by (18%) for the increase in the total number of yeast and molds in (9) samples and the increase in the total number of (60)% of the total number of violations, which were summarized in the presence of fat is not of the origin of the product and the containment of some (24%) were in violation of the health requirements, with the total number of coliforms (16%), violations of health and standard conditions, and (49) (53%) violations of the standard requirements were summarized Contain the starch product in (24) sample and high salt ratio in (2) sample. (34) samples of the liquid serum, and the number of violations (11) samples and (32%) violations of the standard requirements for the presence of starch in (8) samples and the presence of

preservative Sorbic acid in (1) sample and violation of health requirements in (2) (40) samples of boiled cheese and the number of violations was (6) samples and (15%) violations of the standard requirements due to the low rates of salt addition in (2) sample, and (2) (2) samples for violating the sanitary conditions of E. coli bacteria, and 37 samples of powdered cheese were examined. (2) samples for containment of banned formalin, (1) sample of lead element, and (6) samples for violation of hygienic conditions of E. coli bacteria (JFDA, 2015).

As well as the monitoring program carried out by the Food and Drug Administration in 2016 to investigate the presence of bacterial, chemical and physical pollutants in all governorates except the city of Aqaba, as follows: yoghurt and summarized the number of samples in violation of the health requirements in (1) The total number of yeasts and molds and the total number of coliforms and E. coli bacteria in (1) samples, as well as the different types of milk, and summarized the number of violations of standard requirements in the presence of fat not of the product in (3) samples and containing some samples on preservatives (6) samples and the total number of coliforms and E. coli bacteria in (6) samples of violations of health requirements and solid calcification and summarized the number of violations of the standard requirements by containing the product on starch in (2) sample and the high salt content in (7) Samples. (3) samples of the height of the total number of the seasoning, yeast and staphylococcus Iris, as well as the boiled cheese and summarized the number of violations of the standard requirements due to the low rates of salt addition in (3) samples of the presence of the lead element, the presence of formaldehyde in (1) sample and (2) sample to violate the health requirements of E. coli bacteria and Staphylococcus iris, pasteurized cheese and summarized the number of violations of standard requirements for the presence of lead element in (5) samples and the presence of formaldehyde In (1) And (5) samples for violation of hygienic conditions of E. coli bacteria and Staphylococcus iris (JFDA, 2016).

Research Objectives

The general objective is to ascertain the extent to which dairy products comply with the Jordanian health and standard requirements in the city of Aqaba in the period 2016-2017 through:

Specific objectives are

1. Laboratory examination of samples of dairy products and their products in the city of Aqaba.
2. Identification of the extent of compatibility of milk and dairy products in the city of Aqaba for health and standard requirements.
3. Study the laboratory records in the city of Aqaba to identify the extent of compliance with the health and standard requirements in the period (2014 - 2016).

Literature Review

Milk as a food substance and its importance in human nutrition

The milk is very important drink, The Prophet (peace and blessings of Allaah be upon him) loved milk. "The Prophet (peace and blessings of Allaah be upon him) drank milk at once and drank water, because it is of great benefit in keeping

the body healthy, The Prophet (peace and blessings of Allaah be upon him) said in the hadeeth of Abu Daoud and Ibn Majah: "Whoever prays to Allaah, may Allaah bless him and grant us peace, may God bless him and grant us more benefit from it. I do not know what to eat and drink except Milk ", that is, there is nothing enough to push hunger and thirst together from food and drink except milk (Awn's interpretation of the idol). He said: "The Messenger of Allaah (peace and blessings of Allaah be upon him) came to the night of his family with a bowl of wine and a cup of milk. He looked at them and then took the milk. (Ibn al-Qayyim, 2004). Milk is one of the ayatollahs in this universe, as mentioned in Surah Al-Nahl (verse 66). It is also one of the pleasures and pleasures of the people of Paradise, As stated in Surat Muhammad, verse (15). Because of its nutritional importance. The milk is formed in the cattle in strict coordination between the digestive system, the circulatory system and the reproductive system through the lactic glands and others, where God has made each organ function to form the pure milk of the drinkers through (digestion, extraction from the fur, extraction from the blood,). And these secrets of the composition of milk and the contents of food items that were hidden from humans did not discover them after a long journey of experiments and scientific research, which lasted centuries but the Koran revealed to the readers, and the flag of Muhammad peace be upon him among the people at that time Except those who know M secret of heaven and earth and knows what secrets of the creation of objects (reformer and Sawy, 2008). Milk and milk products are considered to be the best natural foods in human nutrition. Milk also plays an important role in the nutrition and growth of children. Milk and milk products are of great nutritional value to humans in general and especially to the elderly. Milk is a suitable and useful food for all ages. It is easy and quick to digest, easy and quick to digest (except for lactose intolerance or allergies), (Alnemer, 2007). Here we will mention the elements of food milk and its importance to the human body.

Ingredients of milk and its Importance to the body

Water

Water is approximately 85% to 90% of mammalian milk, and some components of milk are either dissolved in water such as certain vitamins, enzymes and lactose, or on a water-suspended image such as fat granules or protein molecules. Water has an important and vital role in human life as it has its physiological functions in the human body. Many of the tissues of the body contain water. It also regulates body temperature. Water is also the appropriate medium for the diffusion and ionization of various elements in the body. The processes of digestion, demolition and construction occurring in the body (Alnemer, 2007).

Milk Protein

Milk proteins provide the human body with essential amino acids that can not be formed at high concentrations. Milk proteins are also rich in phosphorus, which helps absorb calcium from the digestive tract. Thus, the body benefits from calcium, which helps fight bone diseases, rickets and weak teeth. Milk proteins are highly digestible and absorbent and contain high levels of essential amino acids, which the body can not build and need to be fed. The protein protein mixture (kaside and whey proteins) complements each other. Casein is rich in amino acid content (tyrosine and phenylalanine), while shark proteins are rich in cysteine and methionine content, all

essential amino acids, A large calcium phosphate makes it a buffer in the children's stomach, keeping the pH at 3.75, the ideal number of protein digestion (Alnemr, 2007).

Milk fat

It is easy to digest because it is found in the form of small granules with a high specific surface which exposes them to rapid enzymatic degradation and contains a high percentage (10% of total fatty acids), short chain fatty acids (4-10) carbon atom, compared to other animal fats, High (30% of total fatty acids) of unsaturated fatty acids that are not harmful to health, and also contains a good proportion (4% of the total fatty acids) of essential fatty acids (alanolic and linolenic) that can not be synthesized in the body, Fatty vitamins in fat (A, D, E, K), and there are fatty acids Milk contains a lot of vital nutrients such as (essential fatty acids, vitamins dissolved in milk fat, phosphatic fatty compounds), and the ratio between fat and sugar in milk is very important as it stimulates the growth of milk Probiotic beneficial intestinal bacteria (Alnemr, 2007).

Milk Sugar (Lactose)

Milk contains the lactose sugar, which breaks down in the digestive tract to sugar (glucose and glucose glutose). Glucose is absorbed faster than galactose. Therefore, the intake of lactose to the metabolism is slow. This is indicated by the fact that blood glucose concentration does not increase directly when consuming milk. (Lactose) from other sugars, as well as the ability to ferment useful in nutrition, as well as the containment of milk sugar on galactose sugar is important for the formation of brain and nerve cells, and is characterized by milk sugar (lactose) ability to stimulate the growth of useful species and friendly to humans from bacteria lactic acid, WA Lactic acid, which is the result of beneficial microorganisms, helps to represent and absorb calcium. It also promotes the passage of certain metal elements through the lining of the intestines, specifically the latter part of the small intestine, while the monosaccharides produced from Lactose is considered an alternative to vitamin D in helping to absorb calcium (Leopard, 2007).

Vitamins

Milk is an important source of many vitamins, which help to take advantage of food and prevent diseases, and there are some vitamins milk soluble in fat, vitamins (K, E, D, A) and others are dissolved in milk water, vitamins C, B, B2) B vitamins act as enzymatic accompaniment. Vitamin C acts as a barrier to blood vessel walls and antioxidants and contributes to the building and repair of tissues and nutrients between cells and strengthens the body's immunity against infection. Vitamin K facilitates the absorption of calcium and phosphorus of the intestines and keeping their level in the blood, and vitamin E also works on maturity and separation The cells are called steroid inhibitors. It plays a role in metabolizing amino acids containing sulfur. It is an antioxidant. It protects vitamin A from oxidation in the gastrointestinal tract, so it reduces the withdrawal of vitamin A in the liver and plays a role in reducing (K) on the formation of prothrombin in the liver and accelerate the transformation of prothrombin to thrombin and blood clotting, and the milk is a poor source of this vitamin, and not so important as the microorganisms in the large intestine, as well as plant materials entering the food supplies the body needs of the feta

Min. Milk is an important source of vitamin A, which is very important in human life. This vitamin is found in a large percentage of milk, in addition to carotene, which turns into vitamin A in the body through oxidation. "It is very necessary for growth, and recent experiments in mice have shown that the lack of this vitamin causes the cessation of growth and then death, as well as vitamin A is very important in the process of vision, known as the anti-vitamin (night blind), and the benefits of vitamin A) Also that it earns the human body immune infection of some diseases, and has an impact In addition, vitamin A deficiency affects fertility, reproduction and reproduction, and milk contains a percentage of vitamin D. This vitamin helps to precipitate calcium and phosphorus in the body, that is, it helps the growth of bones, as well as it prevents the rickets The milk is rich in vitamin B2 and riboflavin, which causes greening of the cheese. Vitamin B2 deficiency leads to the appearance of vitamin D, Palagar disease, so called this vitamin inhibitor of the disease Cholines are an important factor in the formation and use of lipids in the body. Therefore, choline deficiency causes leucithin to be a significant factor in the formation of cells. Slow growth and accumulation of fat around the liver and dysfunction in body fat metabolism (Alnemr, 2007).

Mineral Salts

Milk is rich (calcium and phosphorus) and the ratio between them is balanced with the highest uptake in the digestive tract. This is an advantage for the elderly. Their milk consumption helps to prevent osteoporosis. These minerals also include skeletal formation, (Magnesium, sodium, potassium, chlorine and sulfur), but the milk is poor in the element (iron), and a small percentage of (rubidium, lithium, barium, manganese, strontium, aluminum and Fluorine, copper, iodine, zinc and cobalt), contains a lot of milk enzymes that help digest food and absorb (Alnemr, 2007).

Properties of Milk physical

These natural qualities of milks are of great importance either in giving indications on the manifestations of its quality or the success of technological transactions for milk, and the following are the most important attributes:

Organoleptic properties

Color

1. Buffalo milk and sheep are white for their ability to convert vitamin A (a), a carotene into vitamin A.
2. Clove milk tends to yellow for the inability of cows to convert carotene to vitamin (A).
3. Milk Color The result of the reflection of radiation on the granules of fat and colloids such as casein.
4. The color of the yellowish greenish greenish milk due to riboflavin.

Taste

Milk taste tends to light sweetness of the presence of sugar lactose and any other taste in milk is an indication of the incidence of contamination of milk or change the balance of salts and the increase of chlorides.

Aromatherapy

For the smell of yogurt absorption of smells any smell of milk indicates the lack of productivity on health conditions because

good natural milk qualities do not contain odors strange (Alnemr, 2016).

Standard Natural Qualities of milk

Density and Specific Gravity

The density is the mass of the volume unit in grams / cm³, and the specific weight is the ratio of the density to the water density at 15.5 ° C, chemical constants. The specific weight is the sum of the specific weights of its components. For example, the specific weight of cow milk swings between (1.025 - 1.034) as these ratios are in a certain range. This is used in detecting milk cheating. For example, the addition of water to milk is equal to one true less than the specific weight of milk. Specific weight is an indicator of the addition of water to milk.

Surface Tension

It expresses the forces that influence the surface of the fluid, where it attracts the surface layer to give it the spherical shape and is especially visible on the surface. The surface tension of the milk is 40-60 dine / cm at 20 ° C. The surface tension is especially important in the manufacture of butter. Where increasing quantities of surfactant and coated to the fat granules in addition to increasing adhesion, which works on the difficulty of free fat out of the grain and the formation of butter blocks.

Viscosity

Is the fluid resistance of the fluid and suspended on the particles of liquid and depends on the movement and the internal surface and unit of measurement Centibuz, and the milk viscosity between (1.4 - 2.2) centipose / 20 m, depending on the particles of colloidal milk, especially proteins and fats, and the importance of the wife as the characteristics that are judged On the severity of the product and quality, and the most famous technological processes that increase the viscosity is naturalization, which will break the granules of fat to the granules less than the absorption of protein molecules on them, which increases the presence of these grains in the middle and thus increase the wife.

Acidity

There are two criteria for judging the acidity of the milk: 1 - the value of the logarithm of hydrogen ion concentration in grams per liter, known as PH, where the value of fresh milk is between (6.6 - 6.8) and this value is determined by PH - meters, PH) for the equalizer (7) is mainly due to the acidity of essential milk constituents such as casein, especially amino acids and phosphates, called natural acidity, 2 - Determination of the acidity of the milk itself by acid and alkaline reactions, where the base material is used to calibrate the acid with milk (Estimated as a lactic acid) and in existence a clear evidence of the end of the interaction and often The phenol-phthalene index is called the acidity ratio and is usually used for fresh milk (about 15% -17%). The increase is due to the change in the milk components, especially the lactose sugar and its conversion to lactic acid. The real (developed acidity).

Refractive Index

This refraction or deviation is an expression of the intensity of these components to infer the quality of the milk sample. The refractive index (the relationship between the angle of fall and

the refraction angle) of the milk is 1.34 - 1.36. This value may be due to the presence of lactose, Simple effect, the device used by the estimate is called (refractometer).

Oxidation - Reduction Potential

This standard expresses the oxidative or reduction capacity of the milk components and is expressed in EH. It is measured by the potentiometer of the potentiometer (Potentiometer) and is of milk value (23-25 volts). Thus, the value of EH is a sign of microbial presence. This standard is closely related to the microbial presence in the milk and the agent's consumption of oxygen in the medium to complete its vital processes followed by reduced oxygenation and reduction as a result of this oxygen consumption.

Electrical Conductivity

It is the inverse of the value of the electrical resistance where the MOH passes it, mainly due to milk in the ions, such as chlorides mainly, dissolved salt ions as well as the molecules of the electrical charge protein. Fresh milk is between 45-48 × 10 4MOH, (10-13) x 10 5MOH, in the case of mastitis, increases the rate of chlorides during infection, hence the importance of estimating the electrical conductivity of the milk.

Osmotic pressure

The effect of milk on the most widely distributed soluble molecules, mainly lactose and soluble salts, has an effect on osmotic pressure. Therefore, changes in osmotic pressure may help to track changes in lactose and salts especially in case of infection with mastitis.

Thermal Constants for milk Thermal constant

These parameters include the freezing point (-15 ° C), the boiling point (100.17 ° C), and the specific heat is the temperature required to heat 1 g of milk (◊) and is measured by the price. (15-18m◊), thermal conductivity (the amount of heat per kilowatt-hour in the unit of time during the brightness unit of a specific distance of a given substance, and this depends on the composition of the milk, which explains to us that fat products such as butter and ghee cool slowly because of low thermal conductivity of milk fat). The difference in these thermal constants may be due to water content due to solid milk content Structure (TS) (Total solid) are the cause of those changes (Alnemr, 2016).

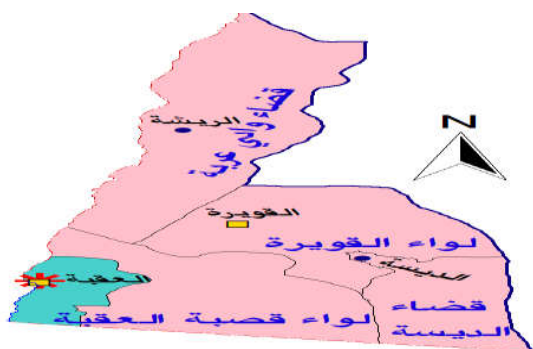
Methodology

Research Methodology:
Experimental descriptive study.

Study Area

The city of Aqaba is located in the southern part of the Hashemite Kingdom of Jordan at the head of the Gulf, which is named after it, the second Gulf of the Red Sea, which is 160 km long. Aqaba has played a major role in the history of the region for its Mediterranean position linking the two continents of Asia and Africa and its participation in borders with three countries: Saudi Arabia, Egypt and Israel. Aqaba is 325 km away from Amman. The city of Aqaba is characterized by hot and dry climate in summer, and warm winter, making it a distinct tourist area frequented by the people of the Kingdom from all governorates, as well as foreigners to enjoy its winter. Aqaba is a prominent tourist landmark in the Middle East and

the main tourist destination for easy access. Land, sea and air. The presence of tourism facilities in the city has been helped by the presence of tourism facilities. The presence of diving, skiing, sailing and sailing associations has contributed to the promotion of marine tourism in the waters of the Gulf of Aqaba. The city of Aqaba is about 375 km² and the sea front is 27 km. The population of the city of Aqaba is 148398 people (the general population and housing census for 2015). The royal high interest in the Aqaba Governorate was crowned by the transformation of the city of Aqaba into a special economic zone with the aim of upgrading the region and creating an investment environment capable of attracting capital to make Aqaba an investment destination and a developed regional center. . Your contract is defined in Map No. (1) (Source: Ministry of Interior / Aqaba Governorate 2016).



Map No. (1): Administrative Divisions of Aqaba Governorate

Study Population

Households of dairy households and their products, and samples of dairy products (milk, cheese, jamid) from the city of Aqaba.

Methods of sampling

Parametric tests

The researcher collected samples of dairy products from the city of Aqaba. The samples were taken from three neighborhoods, which were in the neighborhoods of the rich classes (Males) and the middle classes and the classes were less than the average (normal). The total number of samples collected from the city of Aqaba was 36 samples 12 samples of cheese, 12 samples of cheese, and 12 samples of Al-Jameed, distributed between areas as follows.

Table 1 Milk Products

Percentage %	Total	hard milk material	Cheese material	Milk material	Region
% 25	9	3	3	3	Expensive region
% 33.3	12	4	4	4	Middle region
% 41.7	15	5	5	5	Normal region
% 100	36	12	12	12	Total

Where samples were kept and transferred to the laboratory in conditions appropriate to the methods of conservation. Table 1 showed the samples were collected into a number of laboratory, microbiological, chemical and physical tests by the food laboratory technicians of the SFDA / ShafaBadran and according to the laboratory tests included for each sample. A food item within the sampling plan. Upon completion of the examination of the samples, the laboratory will issue a paper laboratory report, and the methods of laboratory testing (germ,

chemical and physical) shall be followed to follow the technical standard rules and the approved international methods for each. In order to evaluate the results, the standard values were adopted according to the Jordanian standard specifications and technical regulations for each foodstuff and instructions issued by the Food Directorate in addition to the global instructions in these fields. The physical, microbial and chemical tests were conducted according to the references and methods mentioned below.

Table 2 Physical tests

METHOD	TEST
JS 2010	Statement card
JS 2010 / FDA 2004	Odor
JS 2010 / FDA 2004	Textures
JS 2010 / FDA 2004	Tasting
JS 2010 AOAC / 2000 CHP .16	Impurities
JS 2010	Live and dead insects
JS 2010	Packing and packaging
JS 2010	The visible molds

Table 3 Microbiological tests

METHOD	TEST
ISO 4832 : 2006	Total Coliform (CFU/g)
ISO 6888 – 1 : 1999	Staphylococcus aureus (CFU/g)
FDA / BAM 2002 CHP 4	Escherichia coli (MPN/ g)
ISO 6579 : 2002	Salmonella spp / 25g
ISO 6785 : 2001	Total Yeast & mold (CFU/g)
ISO 7954 : 1987	Listeria monocytogenes / 25g
ISO 11290 – 1 : 1996	Incubation Test (swelling)
FDA / BAM 2001CHP 21A	

Table 4 Chemical tests

METHOD	TEST
Pearson – 1991 (titration with NaOH) by (GC)	ACIDITY
J. CH. A – 2005 by (HPLC)	Sorbic and Benzoic acid
ISO 9233 – 2007 by (HPLC)	Natamycin
AOAC – 2000	NaCl
Pearson – 1991 by (GC)	Formalin&H2O2
IOOC , 2001 by (GC)	Fatty acid profile
AOAC 935. 24	Starch

Note: Most used references are calibrated with the exception of GC fatty acids and HPLC preservatives.

Records

The data and results of food samples from dairy products that were withdrawn from the markets of the city of Aqaba, randomly and inspected at Aqaba International Laboratories (Bin Hayyan) during the period from 2014 to 2016 through the Department of Health Control in the city of Aqaba. To investigate the presence of bacterial, chemical and physical contaminants in the city of Aqaba and the extent of their conformity with the Jordanian health and standard requirements, where 170 samples of dairy products.

FINDINGS AND DISCUSSIONS

Dairy products are one of the most important foodstuffs consumed in Jordan. Yoghurt is one of the most important products consumed, especially in children's breakfast, as well as cheeses and dairy products, and dairy products are included in many meals. Address this issue in the city of Aqaba to ascertain the compatibility of milk and its products to the Jordanian standard and health requirements.

Analysis and Discussion of Parametric tests

Through the sampling of dairy products in the city of Aqaba and examined in the laboratories of the General Organization for Food and Drug and were as follows:

Table 5 shows the extent of conformity of the Lebanese samples to the Jordanian health and standard requirements in the city of Aqaba for the year 2017.

Chemical Test		Bacteriological Test		Physical Test		Milk' Samples	Region
Not identical	identical	Not identical	identical	Not identical	identical		
1	2	0	3	0	3	3	Expensive region
0	4	0	4	0	4	4	Middle region
1	4	0	5	0	5	5	Normal region
2	10	0	12	0	12	12	Total

Table 5 showed the tested milk samples that a sample of lactate contained in the rich (mullet) area was based on vegetable oils not of the product origin. The sample is considered to be in violation of the Jordanian standard requirements, the table also indicates that a sample of the brick material in the normal (living) area contains the preservative substance (88.9ppm) and is considered to be in violation of the Jordanian standard requirements according to Article (4-5). Without any color or preservative material. Standard No. (108/2003) for the year 2004 has been adopted for dairy products. This is due to the greed of traders to profit, and misleading and deceiving the consumer where they are placed in refrigerators display and sell as fresh Albanians in malls and shops, as this brick is free of the basic elements of the original brick, such as animal fat and replaced with vegetable oil, The nutritional value of the original daughter, and give the human very high doses of these oils, as well as the addition of preservatives to prolong the age of the brick because it increases the validity of the brick for the longest period and improve the strength and taste of the brick and protect it from rot, causing long-term adverse effects on human health, And the possibility of being infected with many diseases. This is in line with what Mehyar (1996) in Jordan said about the starch and (al-Fishawi, 2001) on the margarine.

Table 6 shows the extent to which cheese samples are compatible with the Jordanian health and standard requirements

Chemical Test		Bacteriological Test		Physical Test		Cheese Sample	Region
Not identical	identical	Not identical	identical	Not identical	identical		
0	3	0	3	0	3	3	Expensive region
0	4	0	4	0	4	4	Middle region
0	5	0	5	0	5	5	Normal region
0	12	0	12	0	12	12	Total

Table 6 showed that all the samples were in conformity with Jordanian health and standard requirements. This is due to good health conditions during manufacturing, good heat treatment for milk, salt addition and good storage. This is in line with what Muhammad (2002) in Sudan and Karim *et al.* (2007) reported in Syria.

Table 7 Shows the extent to which Al Jamid samples are compatible with Jordanian health and standard requirements.

Chemical Test		Bacteriological Test		Physical Test		Samples of Jamid	Region
Not identical	identical	Not identical	identical	Not identical	identical		
1	2	0	3	0	3	3	Expensive region
0	4	0	4	0	4	4	Middle region
0	5	1	4	0	5	5	Normal region
1	11	1	11	0	12	12	Total

Table 7 showed the samples of milk mansef (liquid acid) in the rich (mullet) area was present on the starch. The sample is considered to be in violation of Jordanian standard requirements and according to Jordanian standard For liquid gaseous substance Article (4-2) and provides that it is free of fillers such as starch and flour. The table also showed that a sample of liquid fluid in the normal (living) area contains molds and yeast in total number (cuf / g 2×10^4).

The sample is considered to be in violation of Jordanian health requirements and is not suitable for human consumption. Article (5 - 3): The total number of yeasts shall not exceed 100 units of colony / g in the pasteurized and refrigerated product. This is because of the greed of traders and profit taking, where Mansaf is considered the most famous meals in Jordan, and is characterized by the use of milk For a freezer made from milk after converting it to a milk powder, a liquid or reflux center that is re-prepared before consumption, adding fillers such as origin and others to increase the acidity of milk and milk and to show it more severely and hide the defects resulting from cheating milk and prolong its validity, as well as not taking into account the health issues in the processing of liquid milk And to contain the high humidity and poor storage, which leads to the growth of molds and yeast, and this corresponds to what Qasim (1996) in Jordan.

Analysis and Discussion of Records

Of the data in Table 8 through the International Laboratories of Aqaba International Laboratory for samples randomly collected by the Health Control Department in Aqaba from 2014 to 2016 to investigate the presence of bacterial, chemical and physical contaminants of samples Milk and dairy products, to demonstrate their conformity with the Jordanian standard and health requirements.

It is also noted from Table 8 that the most non-conforming samples are (Solid Jamide). It was found that the number of infringing samples (15) samples and percentage (88.2) The samples of the violation (9) samples and percentage (36), followed by (white cheese boiled), where it was found that the number of samples in violation (4) samples and percentage (23.5) followed by the substance (brick of different types) 7) samples and percentage (20.5), followed by a substance (yoghurt) where it was found that the number of samples in violation (4) samples and percentage (20), followed by the article (butter) where It was found that the number of samples in violation (1) and 16.6%, followed by milk (1) and 10% 1) Sample and percentage (5.5). The sample was found to be (1) sample and 5.2%, and (4) samples were tested. It was found that there were no irregularities and all samples conformed to health and standard conditions. This is due to the fact that the most common solid steel material is due to its use in the

Percentage of Not identical sample	Total		2016		2015		2014		Foodstuff
	Not identical	identical	Not identical	identical	Not identical	identical	Not identical	identical	
10	1	9	1	1	0	4	0	4	Milk
20	4	16	1	4	1	6	2	6	yoghurt
5.2	1	18	0	7	0	7	1	4	Shaninah cream
0	0	4	0	0	0	2	0	2	condensed yoghurt
20.5	4	27	1	9	1	8	2	10	condensed yoghurt with oil
	3	0	0	0	1	0	2	0	White cheese
23.5	4	13	0	2	4	6	0	5	Cheese cooked
5.5	1	17	1	4	0	6	0	7	Solid Jamide
88.2	15	2	3	1	5	1	7	0	Liquid Jamide
36	9	16	2	5	3	5	4	6	Butter
16.6	1	5	0	2	1	1	0	2	Total
----	43	127	9	35	16	46	18	46	

* Source: Department of Health Control / Aqaba Special Economic Zone Authority 2017.

Jordanian mons of dish and the way it is manufactured by manual methods, which makes it susceptible to pollution as well as the addition of preservatives to it due to the lack of control over this product, as well as the liquid gums and the cheese and the cheese. Manufacturing, and adding fillers such as flour and flour to make profits. This is in line with what Al-Qurum (2002) said in Jordan.

RESULTS AND RECOMMENDATIONS

RESULTS

It was found that 16.6% of the tested milk samples were in violation of the Jordanian standard requirements. A sample of milk was found in the rich area (mulat) of vegetable oils that were not of the origin of the product. (Live) on the clipboard surbic acid.

It was found that the percentage of (16.6%) of the samples of the liquid fluid examined was in violation of the Jordanian health and standard requirements. A sample of milk mansef (liquid fluid) in the living area contains starch, and the sample is contrary to the requirements A sample of liquid gaseous substance in the normal (living) area contains molds and yeast. The sample is considered to be in violation of Jordanian health requirements and is not suitable for human consumption.

3. It was found that all samples of the cheese material examined were in conformity with Jordanian health and standard requirements.

Most of the results of the examined samples of the Jordanian health and standard requirements in Aqaba city, which were collected randomly by the Health Control Department in the period from 2014 to 2016, were not found.

Recommendations

The consumer should pay attention to the place where he buys milk and its products, to be from reliable shops, to read the history of production and consumption, and to pay attention to the color and cleanliness of the product and cleanliness of the shop.

To activate the role of the health control on the dairy factories and factories sector, and to focus on the detection and guidance on the laboratories to ensure that they comply with good manufacturing practices and standard manufacturing conditions that affect the quality of the product and its nutritional value. And its products.

Contribute to the work of scientific research and joint studies with the relevant departments specialized in the production and processing of milk and its products in the colleges of agriculture and agricultural and veterinary institutes to improve the specifications of milk and its products and to ensure the safety and health of the consumer.

CONCLUSION

Due to the importance of dairy products, dairy products are considered one of the most important foodstuffs in Jordan. It is an integrated diet for adults and young people because of its benefits in the health, food and other fields. It is almost devoid of any table at any meal, despite its different types and methods of manufacture. The most important of these products is consumption, especially in children's breakfast, as well as cheeses, dairy products and yoghurt. It is used in many meals, including snacks, including breakfast, as well as various types of milk in the Jordanian Mansaf, The dairy industry is one of the most important industries based on the needs of the local market.

Because of the spread of methods of cheating in dairy products and mislead the consumer at the time of purchase, as cheating milk by the addition of substances that increase the density of starch and others, but there are ways to cheat with formalin and boric acid and oxygen water, which is one of the most dangerous substances that enter the body and only show the effect in the long term where used These substances to preserve the milk so as not to spoil the seller, especially in the summer and the motives of the use of this kind of toxic substances, keeping the milk for the longest period without visible damage, and the introduction of bright white color, and increase personal income by increasing the amount of milk, greed, And try to win the largest number of customers and customers.

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