Effect of Microorganisms Present in Canned Foods

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Abstract

The aim of knowing the types of microbes found in canned food, the extent of the impact of these living microbes on humans, 500 questionnaires were distributed, the target population is residents of the city of Mecca, and responses were obtained from the researcher's email (from age 25-55years in Mecca). The data was collected and analyzed through the use of a table, the Excel 2010 program, a pie chart. It concluded that through this study that live microbes found in canned foods are responsible for more than 80% of food poisoning cases? Yes 100%.

Keywords: effect of Microorganisms, found, in canned food.

Canning is a method of preserving food in an airtight container (food that has been prepared and sealed). Canning food enables people to preserve food for a long period that may reach an entire year. In 1804, a cook named Nicolas Appert discovered that liquids, such as soup and small fruits, such as cherries, could be preserved by placing them in glass containers and immersing the closed containers in boiling water. Abert did not realize at the time that he was killing bacteria that would spoil the food if he did not do so. In some countries, canned goods are called by another name, which is canned goods (1). The three essentials of life-air, water and food -are practically never sterile as we obtain them, and the problem of a complex community is to control them that no harm results. To sterilize our food and our surroundings physically impossible. Practically all of our garden vegetables carry bacteria and molds and come from direct contact with manures; milk we expect to contain bacteria; salads, berries and fruits we take directly from the dust to eat after only a casual washing. None the less we expect that these same goods, canned, should come to us containing no living organisms. we expect market foods to reach us contaminated with living microorganisms, but with no pathogenic bacteria, and are willing to disregard other organisms unless they produce rapid spoilage. The factors involved in spoilage of canned foods are manifold, but the two outstanding ones are decomposition due to bacterial action, and discoloration of the food or rusting of the can due to chemical reactions not associated with the presence of micro6rganisms. The first problem is

purely one of bacteriological methods, and can be solved by destroying all bacteria within the can after it is so sealed that no more can enter. It would be a simple matter to the canners to supply food that had been processed so long that there would be no doubt as to its sterility, but such a process would cause most fruits and many vegetables to lose their fresh color, consistency and flavor. Such a method would not be satisfactory, and in the light of our present beliefs concerning vitamins, might injure these valuable constituents. On the other hand, with short processing the attractive qualities of food are retained, but all microorganisms may not be killed and there might be excessive spoiling, so this course would be equally unsatisfactory. The practical canner is, therefore, constantly seeking a mid-point in processing which will be most economical and detract least from the attractiveness of the product, while it is sufficient to kill organisms that cause spoilage or disease. Recently a special attempt has been made to obtain actual sterility. The immediate object of this work, therefore, is to determine whether, in apparently tight cans of merchantable foods, organisms persist through the sterilizing processes as at present carried out (2).

Material and Methods:

The study began in (the city of Mecca in the Kingdom of Saudi Arabia), and the study ended with writing the data collection in October 2024. The researcher used descriptive analysis, an approach that uses quantitative or qualitative description of the social phenomenon (effect of microorganisms present in canned foods). The independent variable (the extent of the impact of microbes found in canned food on humans) and the dependent variable (percentage of influence of microbes present in canned food). This type of study is characterized by analysis, reason, objectivity, and reality. It is also concerned with individuals and societies, as it studies the variables and their impact on the health of the individual, society, and the consumer, and the spread of diseases and their relationship. For demographic variables such as age, gender, nationality, and marital status. Status and occupation (14), and use the Excel 2010 Office suite pie chart to sort the results (15). The questionnaire is a wonderful and useful tool for collecting a huge amount of data, but the researchers were not able to conduct personal interviews with the participants in the online survey, due to social distancing rules at the time to prevent infection between participants and researchers, and the questionnaire was only answered electronically, the questionnaire consists of nine questions, all of which are closed-ended.

Results and discussion:

The percentage of approval to participate in the research questionnaire was 100%, and the percentage of participants according to their age was as follows: 0% from 25-34 years old, 50% from 35-44 years old, and the same for those 45-55 years old 50%, and all their genders. They are 100% male, 100% Saudi by nationality, 50% by university level, and 50% postgraduate and doctoral. As for their job professions, they were all 100% government employees. When moving to the questionnaire questions and the participants' responses to them, they were as follows: The first question: There are ten types of live microbes found in canned food that cause food poisoning, and they are as follows: Clostridium perfringens, Staphylococcus aerobicum, Bacillus cereus, Salmonella, Shigella, Clostridium botulinum, Escherichia coli, and others? Yes 100% and No 0% The second question: What are the symptoms of food poisoning: nausea, abdominal pain, colic, vomiting, diarrhea, intestinal inflammation, fever, headache? Yes 100% and No 0% Question Three: Most food-borne diseases are poisoned due to mishandling, inappropriate preparation and preparation, and poor storage of food? Yes 100% and No 0% Question Four: Foodborne diseases are a group of symptoms resulting from

eating food contaminated with bacteria and toxins? Yes 100% and No 0%. Question five: Are live microbes found in canned food responsible for more than 80% of food poisoning cases? Yes 100% and No 0% Question Six: Are the microbes found in food packages the reason for the change in the shape of the food package? Yes 100% and No 0% Question Seven: Can the expiration date on food play a role in food poisoning? Yes 100% and no yes 0%. Question Eight: Is salmonella considered the most common type of food poisoning? Yes 100% and No 0% Question 9: Symptoms of food poisoning begin about 12 to 24 hours after eating contaminated food? Yes 100% and No 0% (figure No.1).

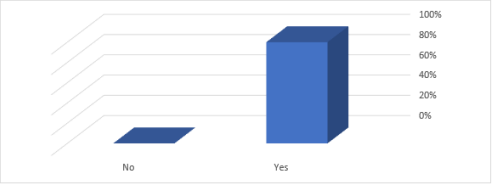

Figure No.1: Do microbes allocated to canned foods account for more than 80% of food poisoning casesaccording to participates

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WORKS CITED

Les Conserves: Homemade preserves and ready-made salads by Mrs. Bushra Mawasi Al-Rahali." Archived from the original on 02/03/2014

E. W. CHEYNEY; A STUDY OF THE MICRO-ORGANISMS FOUND IN MERCHANTABLE CANNED FOODS. From the Department of Preventive Medicine, Harvard University Medical School, Boston, Mass. May I4, 19I9.

Alserahy, Hassan Awad, et al (2008), The thinking and scientific research, Scientific Publishing Center, King Abdul-Aziz University in Jeddah, the first edition.

Al Zoghbi, Muhammad and AlTalvah, Abas (2000), Statistical system understanding and analysis of statistical data, first edition, Jordon- Amman.