

SPECIAL ARTICLE ΕΙΔΙΚΟ ΑΡΘΡΟ

Food hygiene requirements in health care enterprises in Greece The role of the hospital sanitarian

The consumption of unsafe food poses serious risks to consumer health. Mortality associated with foodborne outbreaks has increased in hospitals, in comparison with the wider population. Hygiene, as an independent science, focuses on disease prevention, and hygiene professionals have contributed greatly to the protection of public health in the hospital setting. This article outlines the professional role of the hospital sanitarian at the international level, and in the fulfillment of food hygiene legislative requirements in Greece. Epidemiological data and key elements of food safety and control measures are provided for better understanding in this field. The lack of sanitarians in Greek hospitals hinders achievement of the objective of optimal food hygiene. The administrative bodies of public institutions, including hospitals, are required to staff health units in a rational manner, taking all the measures necessary to ensure optimal food hygiene, to protect the Public Health.

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2023, 40(1):108–116

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Απαιτήσεις υγιεινής των τροφίμων στις επιχειρήσεις παροχής υγείας στην Ελλάδα. Ο ρόλος του νοσοκομειακού υγιεινολόγου

Περίληψη στο τέλος του άρθρου

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1. INTRODUCTION

The consumption of unsafe food poses serious risks to consumer health worldwide, endangering lives.¹ With the spread of globalization, consumer demand for a wider variety of foodstuffs is expected to influence food safety, as is climate change, placing greater responsibility for food safety on food producers and food handlers.²

Various aspects of food supply have a profound impact on foodborne illnesses.³ The consumption of food that may contain poisonous chemicals (heavy metals, parathion, etc.), toxins from microorganisms (mycotoxins), biotoxins and microorganisms, including bacteria, viruses, parasites, and fungi,³ poses a variety of health risks, and the food industry is therefore required to supply safe food in compliance with the relevant food laws.⁴ Optimal food hygiene ensures that

all the necessary precautionary measures have been taken, at all stages of food production, processing, distribution and supply, to prevent the occurrence of foodborne illnesses caused by microorganisms, toxins, and chemical substances.⁵

Within their routine operation, hospitals serve food to the hospitalized patients and to the hospital employees, daily, throughout the year.⁶ The catering service is among the important departments of a hospital in terms of environmental hygiene.⁷

Greece has approximately 160 public hospitals, assigned to meet the hospitalization needs of the entire national territory.⁸ According to the Organisation for Economic Co-operation and Development (OECD) figures, the average annual discharge rate in Greek hospitals is 196.5 per 1,000 citizens.⁹ Public health sections have been established in the hospitals with a capacity of more than 100 beds, which provide, among other services, food safety services.¹⁰

Sanitarians (hygiene inspectors) occupy a pivotal position in the hospitals regarding the management of environmental hygiene,⁷ and have a key role in the operation of essential social welfare services.¹¹ According to the International Labor Organization (ILO) of the United Nations (UN), sanitarians are professionals who provide services to educational, industrial, communal, public, private, and other organizations, institutions and corporations regarding issues of environmental hygiene. Their occupational duties include determination of hygiene standards and enforcement of regulations regarding food processing and supply.¹² According to the Greek Ministry of Health, the public hospitals currently employ 56 sanitarians, most of whom are in the Attica Region.¹³

Many authors have documented the role of sanitarians in various sectors of the public health services.^{6,7,11,14} This paper aims to highlight the role of sanitarians as healthcare executives in the field of food hygiene in Greece.

2. EPIDEMIOLOGICAL DATA ON FOODBORNE ILLNESSES

The infections caused by the consumption of food or water are called foodborne or waterborne illnesses. Food and water may transmit infectious agents to people and can therefore contribute to the occurrence of foodborne/waterborne illnesses.¹⁵ In some cases, microbial growth and proliferation in food produces toxins, which cause illnesses specifically defined as food poisoning.¹⁶

The effects of unsafe food consumption on human health may vary from mild gastrointestinal symptoms to severe disease and even death.⁶ Foodborne illnesses may cause a combination of symptoms, such as nausea, vomiting, and diarrhea, either bloody or not, and other symptoms. Abdominal cramps are likely to occur following the consumption of contaminated food. Diarrhea and vomiting may start from an hour or to three days from the consumption, depending on the pathogen, the type of toxin, and the level of food contamination.¹

Approximately 600 million people worldwide (about 1 in 10) are infected every year by contaminated food, of whom 420,000 die. The distribution varies widely throughout the world, with the regions of Africa and Southeast Asia having the highest incidence of infection and the highest mortality rates.¹⁷

In Europe, more than 23 million people, 3 million of whom are children aged under 5 years, are infected annually following the consumption of unsafe food, with about 5,000 deaths, 14% of which are in children aged under 5 years.¹⁷ The European Food Safety Authority reports epidemiological data on food in the market in Greece, and specifically in the field of mass catering.¹⁸ As indicated in table 1, in 2016, seven outbreaks were recorded in Greece, with 271 cases, of which 91 needed hospitalization and one was fatal.

Table 1. Foodborne outbreaks in mass catering establishments, Greece 2016.

| Causative agent | Food vehicle | Outbreaks | Human cases | Hospitalized | Deaths |
|-------------------------------|---|-----------|-------------|--------------|--------|
| Norovirus | Unknown | 1 | 52 | 17 | 0 |
| <i>Salmonella</i> abony | Buffet meals | 1 | 10 | 5 | 0 |
| <i>Salmonella enteritidis</i> | Cereal products including rice and seeds/pulses (nuts, almonds) | 1 | 18 | 8 | 0 |
| <i>Salmonella enteritidis</i> | Spaghetti | 1 | 23 | 6 | 0 |
| <i>Salmonella enteritidis</i> | Spaghetti with cheese | 1 | 66 | 51 | 1 |
| <i>Salmonella</i> give | Pig meat and products thereof | 1 | 15 | 4 | 0 |
| Unknown | Beef with cheese, cream and mushrooms | 1 | 87 | 0 | 0 |

Source: EFSA, 2017¹⁸

3. DATA ON NOSOCOMIAL FOODBORNE INFECTIONS

According to international definitions, a nosocomial infection or infection associated with healthcare facilities is defined as one presenting in a patient after the 3rd calendar day of hospitalization (the first day of hospitalization being defined as the day of admission to the hospital).¹⁹ Nosocomial infections constitute a major public health issue, posing a risk to patient safety, and it is documented by a significant increase in morbidity and mortality rates, and by indicators measuring the length of stay and the cost of hospitalization.²⁰

The average number of patients with nosocomial infection in the European Union (EU) every year is estimated at approximately 4,100,000, with the estimated number of annual deaths reaching 37,000, making this a major public health issue.²¹ During the period 1985–1991, 380 incidents of foodborne nosocomial infection, affecting 13,085 people and leading to 50 deaths were reported in the United States (US).²²

The microorganisms responsible for nosocomial infections may originate in the flora of the hospital environment. As noted above, food may constitute an environmental factor for the transmission of diseases.²³ Nosocomial foodborne infections are of particular importance, as hospital patients are more vulnerable and more prone than healthy persons to factors that increase the risk of such diseases. The contributing factors may be natural (achlorhydria), immunological (immunosuppression), demographic (very old or young age) and environmental (i.e., a long stay in a hospital ward with many beds).²² Mortality in hospital outbreaks of foodborne infections is significantly higher than in epidemic outbreaks in the community. In addition, apart from the patients, in a hospital outbreak, a wider population is likely to be exposed to infection and complications, including employees and visitors.²⁴ The prevention of nosocomial infections is achieved mainly by blocking the transmission paths, and all the precautionary measures and instructions are based on this approach.²²

Some of the foodborne illnesses that have been monitored by public health services in Greece are botulism, hepatitis A, typhoid fever, salmonellosis, shigellosis, brucellosis, listeriosis, and others.²⁵ Cases of foodborne illnesses that are not recognized or that are not reported to the competent authorities or investigated are common.²⁶ Hygiene inspectors are bound by law to implement the requisite measures for disease control.¹¹

4. SANITARIANS AND HYGIENE SERVICES IN HOSPITALS

Hygiene is the science that examines the principles, methods and practical implementation of disease prevention, environmental rehabilitation, and health improvement. It is usually divided into further sectors, including personal hygiene, domestic hygiene, food hygiene, industrial hygiene, etc.²⁷ According to the World Health Organization (WHO), hygiene refers to the conditions and the practices that help maintain health and prevent the spread of diseases.²⁸ The American Environmental Hygiene Association defines environmental hygiene as "*the science and practices for the prevention of diseases and injuries, as well as the promotion of well-being by identifying and evaluating environmental sources and hazardous factors, limiting exposure to hazardous physical, chemical and biological agents in the air, the water, the ground, the food, as well as other environmental instruments that are likely to influence negatively human health.*"²⁹ Environmental hygiene constitutes a fundamental part of the operation of public health services,³⁰ because of the importance of the huge environmental impact on the health and well-being of citizens.⁷ Sanitarians are skilled in the area of environmental control measures to protect public health.³¹

Sanitarians are usually employed in government services, mainly in the Ministries of Health and the Environment, and in local hygiene services, private organizations concerning hygiene, training centers, factories, industrial complexes, hospitals, etc.¹² As indicated above, in Greece, public health sections have been established for state hospitals within the National Health System, with the responsibility of preventing diseases, in cooperation with the nosocomial infection control committees.¹⁰ The hospital public health sections are responsible for food safety control. Among other duties, the nosocomial infection control committees are responsible for taking precautionary measures to prevent foodborne infections.¹⁹ Specifically, they undertake to formulate in writing the procedures regarding food hygiene and safety, sampling, food safety control, and the hygiene of catering workers.¹⁹ Sanitarians in hospitals participate in the nosocomial infections committees, and are responsible for monitoring appropriate food management.³² The legislation on public health stipulates the responsibilities regarding food hygiene for the operation of the sections¹⁰ in most of the hospitals in Greece, according to the relevant organizations, and these are carried out by the nutrition sections.³³ In the EU the operators of food businesses bear the primary legal responsibility to ensure compliance with the provisions of food legislation, and

especially food safety.³⁴ Food business operators (FBOs) are defined as “*the natural or legal persons responsible for ensuring that the requirements of food legislation within the food business under their control are met*”.⁴ In Greece, the responsibility for the organization, coordination, control, and smooth function of the overall hospital services falls upon the hospital administrator.³⁵

5. THE HEALTHCARE UNIT AS A FOOD BUSINESS

Food hygiene in the hospital exhibits special characteristics. Although provision of safe food to the patients, who are at risk of infection, constitutes the primary objective of hospital catering, the current epidemiological surveillance data indicate improper food processing practices.²⁴ Improper food handling by the personnel facilitates the transmission of infectious agents, especially to high-risk patients (elderly patients and children, and those with achlorhydria, immunosuppression, anorexia, etc.).⁶ Hospital meals should be tasty, appealing, nutritious, and free of contamination.⁶ Some patients follow vegetarian diets or other special diets (e.g., for religious reasons) that the hospital is required to provide. The hospital needs to provide flexible meals, given that many patients may receive their treatment at the mealtimes, and the storage of these meals should be avoided. Variable meals for the personnel and the visitors who cannot leave the hospital (e.g., relatives of patients in intensive care or persons accompanying children) should also be taken into consideration.⁶

5.1. Unsafe food

A major responsibility of hospitals is the supply of safe food to the patients, employees and visitors. Food is considered safe when it complies with the special EU Community provisions that govern food safety, and food that does not

comply with the relevant legislation is considered unsafe.^{4,34} Food is considered unsafe if it is either harmful to health or unfit for human consumption (tab. 2).^{4,36} Food legislation in the EU imposes an obligation on FBOs to implement Hazard Analysis Critical Control Points (HACCP).⁴

5.2. Control procedures based on Hazard Analysis Critical Control Points principles

FBOs establish, implement and maintain permanent procedures based on HACCP principles (tab. 3).³⁷ The development and implementation of programs based on good hygiene practices constitute a prerequisite for the implementation of HACCP principles. Good hygiene practices refer to the general conditions of food production

Table 3. The seven principles of Hazard Analysis Critical Control Points (HACCP).

1. Identifying any hazards that must be prevented, eliminated or reduced to acceptable levels; (hazard analysis)
2. Identifying the critical control points at the step or steps at which control is essential to prevent or eliminate a hazard or to reduce it to acceptable levels
3. Establishing critical limits at critical control points which separate acceptability from unacceptability for the prevention, elimination or reduction of identified hazards
4. Establishing and implementing effective monitoring procedures at critical control points
5. Establishing corrective actions when monitoring indicates that a critical control point is not under control
6. Establishing procedures, which shall be carried out regularly, to verify that the measures outlined in subparagraphs 1–5 are working effectively
7. Establishing documents and records commensurate with the nature and size of the food business to demonstrate the effective application of the measures outlined in subparagraphs 1–6

Source: Regulation (EC) 852/2004³⁷

Table 2. Definitions of unsafe food.

| Harmful food | Food unfit for consumption |
|--|---|
| Occurrence of confirmed case of foodborne illness | Unacceptable organoleptic properties |
| Contains substances (pollutants or chemicals) above the concentration limits or substances whose presence cannot be justified by their nature | Food that does not entail a risk for public health, but which may not be used for human consumption |
| Contains pathogenic microorganisms or toxins thereof, or forms of parasites or viruses at levels exceeding the statutory limits – safety criteria | |
| Presence of foreign matter with a direct impact on consumer health | |
| Food items without Allergen Statement Labelling, declaring the presence of allergens found either in the form of ingredients or due to cross-contamination | |

Source: European Commission,³⁴ Hellenic Republic³⁶

according to the basic rules of hygiene, including requirements for the design, construction, and operation of the facilities, the manufacture and use of the equipment, the scheduled maintenance and cleaning, and training and hygiene of the personnel.³⁸ Requirements may also include allergen control programs and traceability procedures.³⁸

The purpose of the HACCP methodology is to focus on critical control points (CCP).³⁹ A CCP is any step in the production process at which lack of control may result in the production of unsafe food.^{38,39} The temperature requirements constitute the most common CCP for the control of microbiological hazards, including storage and transportation temperature, and time/temperature conditions necessary to reduce or eliminate risk. Other CCPs may control cleaning of packaging and checking for the absence of damage to the packaging, metal detection to identify natural hazards, and control of the time/temperature conditions of frying oil to avoid chemical contaminants.³⁸ In their study for the determination of CCPs in various hospital catering services, Bryan and Lyon set critical points depending on food processing and food supply procedures. Specifically, CCPs were set at the stages of heat treatment while cooking, cooling, shredding/portioning, freezing, defrosting, reheating, delivery (for businesses that do not prepare meals), hot filling, and storage.⁴⁰

The EC regulation 852/2004 on food hygiene provides for the development of good practice guides and the implementation of HACCP principles by similar companies targeting a similar population.³⁷ According to the categorization of the Hellenic Food Authority, hospitals, as FBOs, fall within the scope of a general guide to good practice, which, however, has not yet been developed.⁴¹ For this reason, every hospital implements the HACCP principles controlling food hazards within the limits of its responsibility.

6. THE ROLE OF SANITARIANS AS FOOD HYGIENE EXECUTIVES IN HOSPITAL UNITS

As described above, sanitarians are health professionals who assist and advise organizations and institutions on issues of environmental hygiene, contributing, in particular, to the prevention of infectious diseases.¹² Hospital sanitarians conduct inspections of the facilities of the catering services, offer advice on compliance with good hygiene practice, help with personnel training, provide assistance, coordinate with the executive authorities, contribute to infections control and participate in the investigation of foodborne outbreaks.⁷ Finally, they provide practical advice on the implementation of HACCP principles.⁶

6.1. Monitoring compliance with good hygiene practices

Routine control of the hospital facilities involves verifying compliance with the requirements regarding food hygiene. Specifically, controls concern the building infrastructure (floors, walls, doors, and ceilings), to ensure that they are maintained in good condition, the hygiene of the staff rooms (locker rooms and toilets), checking that appropriate personal hygiene measures can be taken, including cleaning and disinfection of the premises and the equipment (materials, methods, and frequency), etc.³⁸

In principle, a hospital prohibits the presence of rodents and insects, but the conditions may favor their entrance and proliferation. Their natural capabilities for the transmission of diseases is increased by the significant quantity of infectious microorganisms in the hospital environment.⁷ The possible presence of harmful animals (insects, rodents, birds, and reptiles), therefore, needs to be checked, along with measures to prevent their entrance into the premises, and implementation of disinfestation and rodenticide programs. Sanitarians also check the waste management, water quality, the personal health/hygiene and food handling by the personnel, food upon delivery its appropriate management, and finally food storage facilities and preservation temperatures.³⁸ Special hygiene requirements are necessary for food transported from the production unit to hospitals. The mode of transportation needs to be carefully checked to prevent contamination and food storage temperature fluctuation. Transportation time, temperature values, transportation routes, and modes must all be taken into consideration. Special care must be taken regarding the use of the food trays and utensils by the patients, which entails a special process regarding the handling of the equipment, trays and disposable utensils.⁷

Food legislation requires the FBOs to establish a traceability capable of identifying their suppliers, and the food and ingredients to be incorporated into the meals that are produced on the premises.⁴ Procedures have been established for this purpose, and such information is made available to the competent authorities.³⁴ Finally, food hygiene requirements also include checking for the presence of allergenic substances and potential intolerance effects, and for the prevention of possible cross-contamination.³⁸

6.2. Critical control point and documentation of Hazard Analysis Critical Control Points processes

As an environmental hygiene expert,¹² the sanitarian

may participate in the food safety management team in the context of the risk factor analysis process.^{39,42} According to the implementation of HACCP principles, a sanitarian monitors compliance with critical limits that have been set for the designated CCPs, and institutes the necessary corrective actions in the case of any deviation. Checking for the verification of the correct implementation of HACCP principles may include process inspection, verification of CCP procedures, sampling of intermediate or final products and analysis, etc.³⁹ Documentation includes records of HACCP-based processes and of the measurements and analyses performed.^{38,39}

6.3. Catering staff training

Catering staff training in food hygiene is a matter of fundamental importance for FBOs. Food handlers should have the necessary knowledge and skills that promote the hygienic handling of food.⁴² According to European legislation on food hygiene, food handlers should be trained in food hygiene, and the persons responsible for the development and maintenance of the food safety management system should be appropriately trained in the implementation of the HACCP principles and requirements.³⁷

A distinction can be made between general training (of all employees) on hygiene, and special training on HACCP principles. Employees monitoring CCPs should be trained in the specific processes associated with their tasks.³⁸ Special training at the hospital level may be necessary for the employees who are required to enter patient rooms, with instruction in the necessary precautions against infections, and provision of an individual diet to some patients.⁷

The professional rights of sanitarians (hygienists, public health inspectors) in Greece state that they can be employed at all levels of education and training regarding matters of personal, public and environmental hygiene.³² Sanitarians are, among their other duties, responsible for training food handlers in the hospital.⁷ Their specialty involves the ability to identify practices that may lead to an epidemic, to evaluate the risks for consumer health, to detect potential violations of food hygiene legislation, and to determine the corrective actions that should be taken by the hospital or the responsible catering company.⁶

6.4. Sampling and analysis

Microbiological hazards in food constitute one of the main causes of foodborne illnesses.⁴³ Hospital sanitarians conduct sampling and analysis as a specific hygiene measure, in conformity with the food hygiene legislation. The

relevant methods of sampling and analysis are established according to internationally recognized rules and protocols.³⁷ The sanitarians conduct a routine food sampling plan to ensure conformity with statutory criteria, which may include checking of raw materials, hygiene, temperature, and the shelf-life of the product.⁴³ They also monitor disinfection application adequacy,³⁸ taking routine samples and sending them to the laboratory for analysis (food, intermediate products, final products, raw materials, surfaces, water, etc.), according to the design of the sampling plan.

Non-routine sampling may be performed to investigate the causes of an epidemic outbreak, the transmission mode, and the type of the outbreak.¹⁶ In the event of a foodborne or waterborne infectious disease outbreak, study is made to detect the main vehicle, to identify the vehicle transmission (food, water, etc.), and to ascertain the infection transmission routes. In the event of a foodborne outbreak, the food origin and production, storage conditions, the stages of final food preparation and the service conditions of the suspected food source are examined.³ Sanitarians, in cooperation with other health professionals, participate in the investigation of the outbreak by carrying out sampling that includes environmental samples and food samples.³²

7. MULTIDISCIPLINARY COOPERATION FOR THE PROVISION OF SAFE FOOD IN HOSPITAL PREMISES

Public health is a science that involves multidisciplinary approaches.¹⁰ In its research and development manual the OECD categorizes the health sciences, including, among others, medicine, nursing, public, environmental and occupational health, and nutrition and dietetics.⁴⁴ Hospitals in Greece employ public health physicians, nurses, dieticians, food technologists and sanitarians (public health inspectors).³³

7.1. Each scientific field contributes in a distinct way to the protection of public health

Food quality and quantity play a key role in the recovery status of patients.²³ Specifically, nutrition science aims to determine the type and quantity of food that promote health,^{3,5} and according to their professional roles, dieticians and nutritionists are involved in the design of a diet and supervision of meal preparation for patients based on the therapeutic needs prescribed by their treating physicians.⁴⁵ According to their professional rights, food technology graduates are engaged in the study, research, and application of food technology and science, and food

maintenance, processing and quality control.⁴⁵ Quality, in this context, is defined as "the set of elements and features of a product or service that specifies the ability of the product or service to satisfy prescribed needs".⁴⁶

According to their specialized scientific knowledge, sanitarians are engaged in the study of hygiene problems, and they monitor the various conditions that influence or harm people's health.³² Specifically, they are employed in the hospital units responsible for monitoring and treating nosocomial infections, and in other public health sectors of the National Health system (NHS), performing food monitoring to prevent diseases.¹⁹ The Joint Commission on Accreditation of Healthcare Organizations (JCAH) designates the sanitarian as the official hygiene inspector of hospital food service facilities.⁷

It is apparent that healthcare units are staffed by many public health specialists, including nurses and infection control doctors, dieticians in the catering service, cleaning supervisors also responsible for pest control, etc. Their professional responsibilities regarding the control of environmental factors, however, in terms of achieving this objective, is secondary or ancillary, in contrast to that of the sanitarian, who is responsible for managing the operational hygiene issues of the health care units (food and water hygiene, disinfection, pest control) as a primary purpose.⁷

Issues of nosocomial infection control are regulated by Decision 114971/2014 of the Greek Ministry of Health, which, in the absence of a sanitarian or food technologist, entrusts the supervision of appropriate food management to the infection control nurse. Similarly, in the absence of

a sanitarian, it also entrusts the training of staff, record-keeping and the supervision of food and water sampling to the infection control nurse.¹⁹ The public administrative bodies are required to take all measures necessary, within the limits of their responsibility, to ensure that the public health departments of the hospitals are staffed with appropriately qualified nurses.³⁴

8. CONCLUSIONS

Hospitals are required to respond to the needs of vulnerable populations exposed to food hazards, including infants and young children, pregnant women, elderly people, and people with an underlying disease. Ensuring food safety therefore constitutes an important healthcare service in the hospital setting. Environmental hygiene monitoring plays a key role in the protection of the hospital population from foodborne illnesses.

The role of the hospital sanitarian is of vital importance in addressing problems of environmental health in hospital facilities, with responsibilities in the supervision of the hygiene of food production, food sampling to ensure the enforcement of legislation on food hygiene and prevention of foodborne illnesses, and relevant staff training and consultation. The objective of overall food management is achieved within the framework of multidisciplinary cooperation with other health professionals to ensure the optimal operation of the hospital units. Hospital facilities should be staffed in a rational manner to enable each scientific field to contribute in a distinct way to the protection of the health of the patients and the personnel.

ΠΕΡΙΛΗΨΗ

**Απαιτήσεις υγιεινής των τροφίμων στις επιχειρήσεις παροχής υγείας στην Ελλάδα.
Ο ρόλος του νοσοκομειακού υγιεινολόγου**

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Η κατανάλωση μη ασφαλών τροφίμων μπορεί να δημιουργήσει απειλές για την υγεία των καταναλωτών. Οι τροφιμογενείς επιδημίες εντός του νοσοκομείου παρουσιάζουν αυξημένους δείκτες θνητότητας σε σχέση με τον ευρύτερο πληθυσμό. Η υγιεινή ως αυτοτελής επιστήμη ασχολείται με την πρόληψη των νοσημάτων και ο υγιεινολόγος ως βασικό στέλεχος στον τομέα συμβάλλει καθοριστικά στην προστασία της δημόσιας υγείας στον νοσοκομειακό χώρο. Στο

άρθρο περιγράφονται ο επαγγελματικός ρόλος του νοσοκομειακού υγιεινολόγου σε διεθνές επίπεδο, καθώς και στην πλήρωση των απαιτήσεων της νομοθεσίας για την υγιεινή των τροφίμων στην Ελλάδα. Για την καλύτερη κατανόηση του πεδίου παρατίθενται επιδημιολογικά δεδομένα και βασικά στοιχεία υγιεινής και ελέγχου των τροφίμων. Η διαφαινόμενη έλλειψη υγιεινολόγων στα ελληνικά νοσοκομεία δυσχεραίνει την επίτευξη του στόχου της υγιεινής των τροφίμων. Οι διοικήσεις των ιδρυμάτων οφείλουν να στελεχώνουν με ορθολογικό τρόπο τις μονάδες παροχής υγείας και να λαμβάνουν όλα τα απαραίτητα μέτρα για την υγιεινή των τροφίμων, με σκοπό την προστασία της δημόσιας υγείας.

Λέξεις ευρετηρίου: Δημόσια υγεία, Νοσοκομείο, Περιβαλλοντική υγιεινή, Υγιεινή τροφίμων, Υγιεινολόγος

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