



Nano Biosensor as an Instrument for Safety and Quality Control of Patient Diet in Hospitals

* ¹Alireza Sadeghi, ¹Fakhri Shahidi, ²Aazam Sadeghi

Abstract

Nano biosensors are nano analytical devices incorporating a biological or biologically derived sensing element, with a very wide range of application possibilities. Obviously, the concern on the safety and quality of patient diet in hospitals is a key aspect for regulatory agencies and control laboratories. Reliable data on the nutrient composition of diet, consumed by patient is critical in health assessment, therapeutic diets and epidemiological research on relationships between diet and disease. Furthermore, the availability of analytical tools in hospitals for assuring mentioned purpose is highly required in order to protect the patient from hazardous or inferior components such as pathogenic and spoilage microbial indicators in air and water, food additives, antiseptics and antibiotics vestiges. However, the difficulty of food analysis arises not only from this great number of components which need to be determined, but also by the complexity of the specific target food products. Today, biosensors play a prominent role in this case, because of their high selectivity and sensitivity, reliability, stability, low cost per analysis, ease of operation, fast response and short assay times. Possibly in the next years, biosensor technology will enter the HACCP procedures enabling an active approach to hazard analysis, creating the basis for an evolution of that approach to food safety and quality. This review focuses on the development and application areas of biosensors in the patient diet analysis, safety and quality control, especially in hospital situation.

Keywords: Biosensors, Hospital situation, Patient diet

1- Department of Food Microbiology, Ferdowsi University of Mashhad, Mashhad, Iran

* Corresponding author: Tel: +98-9155080383; Fax: +98-511-8787430; email: fadsadeghi@yahoo.com

2- Nursing Member of Samen Hospital, Mashhad, Iran