Introduction

Microscopic filamentous fungi, under suitable environmental conditions, can lead to the production of highly toxic chemical substances, commonly known as mycotoxins. The most widespread and studied mycotoxins are metabolites of some genera of moulds such as *Aspergillus*, *Penicillium* and *Fusarium*. Quite peculiar conditions may influence mycotoxin biosynthesis, such as climate, geographical location, cultivation practices, storage and type of substrate. Toxicity has been extensively investigated for the most important mycotoxins, such as aflatoxins, ochratoxin A and *Fusarium* toxins, and much information derived from toxicokinetics in animal models has also been obtained. The adverse effects are mainly related to genotoxicity, carcinogenicity, mutagenicity, teratogenicity and immunotoxicity.

**Goal of the Study**

To identify fungal species able to produce important mycotoxins in different Portuguese settings.

**Methodology**

Descriptive studies were developed to monitor air fungal contamination in different settings such as 10 gymnasiums with swimming pools, two elementary schools, one maternity, one hematological unit, 10 hospitals’ food units, two companies’ food units and one poultry.

Air samples were collected through impaction method. Surface samples were collected by using pre-moistened swabs and a 10 by 10 cm square stencil.

**References**


Sarica, S., Asan, A., Oktar, M., Ture, M., Monitoring indoor airborne fungi and bacteria in the different areas of Trakya University Hospital, Edirne, Turkey. Indoor Built Environ. 11 (2002) 285 – 292.


Conclusions

All the analyzed settings are contaminated by fungi known as mycotoxins producers. Considering the public health risk due to possible air contamination and exposure to mycotoxins by inhalation, preventive measures must be taken. It was also possible to perform the detection of *Aspergillus* species. Although some *A. flavus* strains do not produce mycotoxins, aflatoxin presence is possible to occur in some of the studied settings. Furthermore, Aflatoxin B1 has been classified as a human carcinogen (hepatocellular carcinoma) by the International Agency for Research on Cancer with sufficient evidence in humans and a strong support that main mechanism is genotoxicity.

Additionally, in one of the studied settings, risk assessment must be performed considering the toxicological interactions between mycotoxins and the sensibility of the exposed population.